

# Mac FORMAT



FOR ALL YOUR  
APPLE NEEDS  
— for 21 years —



APPLE  
WATCH  
LATEST  
INSIDE

## 26 essential tips for OS X Yosemite

- ✓ Master the brand new Today view
- ✓ Quickly customise controls and visuals
- ✓ Get more from your music with iTunes 12



#1 THE UK'S  
BEST-SELLING  
APPLE MAG!



### Protect your Apple gear

Keep your Mac and iOS  
devices safe and secure



### Video capture made easy

Record and edit footage  
from any Apple device



### Fix your photo library

Learn how to remove  
duplicate photos fast!

## Networking secrets revealed

How to supercharge your  
Wi-Fi and get the complete  
Apple-connected home

SAVE  
£££s ON 4G  
BROADBAND  
DEALS



### 116 pages of help and advice

We'll help you get even more  
from your Mac and iOS devices!

### Picture perfect Wi-Fi printers

Six top photo printers put  
through their paces.



### Inside Apple's brand new HQ

Discover the incredible tech  
being used in Campus 2.







# JUPITER ASCENDING

FROM THE CREATORS OF THE MATRIX TRILOGY  
IN CINEMAS FEB 6

[www.warnerbros.co.uk/jupiterascending](http://www.warnerbros.co.uk/jupiterascending)



JupiterAscending



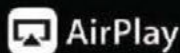
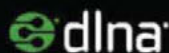
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The perfect place to store & protect  
movies, music, photos and TV shows.



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with Synology and **Jupiter Ascending**

To celebrate the release of **Jupiter Ascending** (in cinemas Feb 6), Synology is giving you the chance to win an out of this world home entertainment system including a Synology DS415play, 48" Curved LED HD 3D Smart TV, Smart 3D Blu-ray Player and soundbar speaker. For your chance to win, simply visit

[www.synology.com/jupiterascending](http://www.synology.com/jupiterascending)



# Welcome

to MacFormat, the UK's best-selling Apple magazine



**U**sing your Mac or iOS device is barely half the experience without the internet. It's now a household utility rather than a luxury, but the experience we get can vary hugely. There are speed (and sometimes stability) factors that we can't change, but even if you are on a slower connection there's plenty you can do to make your home network better. We're not just talking about the performance of devices either, there are other important factors such as how to extend networks, bridge them and even set up uncommon devices such as IP cameras. When you're away from your home network the internet doesn't have to end, of course, but until recently the experience has been nothing like being online at home. But 4G is here, and we'll show you how to get the best deal on a 4G dongle.

Also in this issue, we show you how to protect your Mac and iOS devices, both physically and digitally. We know how much you love your Apple gear, so with our advice you can keep it all safe.

And as an admirer of Apple's design greatness, you'll no doubt love the plans for Apple Campus 2. We've investigated how the new (and greener) HQ is shaping up.



**Christian Hall**  
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## Meet the team!



**Matt Bolton**  
Commissioning Editor



**Tom Harrod**  
Production Editor



**Paul Blachford**  
Managing Art Editor



**Seth Singh**  
Digital Art Editor

Plus our team of expert writers and designers all over the world, who help make *MacFormat* number one!

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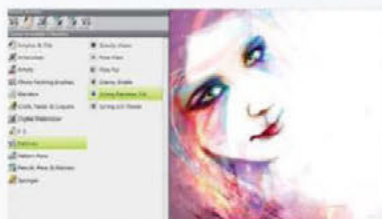
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## SUBSCRIBE AND SAVE

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# Apple

We round-up the Apple stories that matter to you

# WORLD



## Will Apple Watch make fitness fun?



*And will it also be a worthy aid to remote caregiving? But will the battery life be pathetic? Regardless of these questions, will you slap Apple on your wrist anyway?*

**A**s 2015 begins keen Apple watchers are staring at the space on their wrist and wondering if they need an Apple Watch on it.

"The Apple Watch is powerful," Forrester Research analyst Julie Ask told *The Verge*. "This does what a Fitbit or Jawbone or Nike FuelBand does, but it offers music and the apps integrated into the device."

The smartwatch's integration with health and wellness is one big reason people may want to wrap Apple around their wrist. After all Apple's Health app works with many makes of fitness tracker. But Apple Watch aims to be the best around. Apple CEO Tim Cook sits on the Nike board and Nike ceased development of its own FuelBand fitness tracker last year.

Alongside sensors including a heart rate monitor, Apple Watch software is designed to encourage healthy habits. The built-in fitness app aims to make fitness fun, allowing you to set personal fitness goals and offering an engaging



*Tim Cook confirmed  
at the recent Q1 results  
call that the Apple Watch  
is now scheduled to  
ship this April*

way of monitoring your progress towards them. The device also tries to nurture better health habits, using a built-in reminder system which nags you, for example, if you've been sat down for what it perceives as too long.

This game-ification of health and fitness reflects international trends in health delivery. These days doctors urge patients to adopt healthier lifestyles in order to dodge avoidable health problems. These health problems are significant: over 64% of UK adults are obese, while lifestyle related conditions such as diabetes cost the NHS billions each year.

Apple and Cook are hopeful Apple Watch will help people change their ways: "Apple Watch gives us the ability to motivate people to be more active and healthy," he said.

The other side of health data is making it available. Apple is working with health institutions, such as the Mayo Clinic, to develop systems to share Apple Watch user's health data with their medical caregivers (doctors et al),





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## **Apple's new HQ**

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The style conscious will be pleased to know there'll be three Watch designs and six straps to choose from.

in order to achieve more accurate health monitoring and to unlock the potential for a system of remote caregiving.

This also means you can choose to share data gathered by your Apple Watch with any compatible health and wellness app using Health. This app-centric philosophy also opens the door to third party developers who can choose to deploy hardware that works with, or in conjunction with, the Apple solution.

## **Watch your health**

Look through the Health app settings and you'll find dozens of categories of health data not gathered by the Apple device. This means others have begun developing a huge range of compatible solutions, from smart toothbrushes to connected pill-dispensing devices. Dexcom has developed an Apple Watch-compatible glucose monitoring system for diabetes control.

The Independa Mobile system means the caregivers will be able to remotely monitor the

activity and wellness of the elderly folk they look after with Apple Watch.

Apple meanwhile is opening new opportunities for families of health-related products. An Apple patent for gesture-controlled headphones with heart and temperature sensors was published this time last year, for example.

Understandably Apple hasn't let too many additional details slip since it told us of Apple Watch last September. Recent reports claim the company's been unable to resolve battery life problems. If true, you will need to recharge the device daily and get just 19 hours of mixed standby and active use from the watch. Less if you use it a lot.

The smartwatch will come in three versions: the stainless steel Watch, aluminium Watch Sport and 18c gold Apple Watch Edition. Six different straps will also be available.

There's not long to wait before we can see it for ourselves. Tim Cook has confirmed that the Apple Watch will ship in April.

## **Apple in QUOTES**

What are people saying about the world of Apple?

**Tim Cook**

[www.apple.com](http://www.apple.com)

"We'd like to thank our customers for an incredible quarter, which saw demand for Apple products soar to an all-time high."

Apple's hanging high

**John Couch**

[www.apple.com](http://www.apple.com)

"We need to encourage every child to find their unique genius. Our goal really became how do we build a learning environment."

Apple's education chief says why he does what he does

**Jean-Claude Biver**

[www.tagheuer.com](http://www.tagheuer.com)

"I'm not just living in... the past, I want to be connected to the future. The Apple Watch connects me to the future."

TAG Heuer boss praises Apple Watch

**Michael McAuliff**

[www.huffingtonpost.com](http://www.huffingtonpost.com)

"Wow. The press gallery over the House floor for the State of the Union address looks like a damn Apple ad."

A US reporter notes the Mac is back



## Rumour ROUNDUP

The top 5 Apple stories we're talking about

01

**iStylus** Yet another Apple patent suggests the company may be introducing an iPad stylus – presumably for artists, and people who want that retro feel.

02

**12-inch MacBook Air 'imminent'** At press, claims Apple will ship a 12-inch MacBook Air are becoming even more frequent.

03

**Apple GoPro?** Apple has recently filed patents describing a rugged iOS-compatible camera. Is it planning to start competing directly with GoPro?

04

**Intel outside** Speculation continues that Apple will abandon Intel in favour of its own A-series chips in a future MacBook-type device.

05

**Samsung inside** Yet another series of reports claim Samsung will make A9 chips for the next iPhone. But these proved wrong last year.

## Apple Insider

*Our industry expert rounds-up the biggest Apple corporate stories circulating this month*



**Apple loves Tim Cook** Apple employees rate CEO Tim Cook higher than employees at any other tech firm rate their boss, according to UBS

Evidence Lab. UBS analyst, Steven Milunovich last year praised Cook, saying the Apple boss "thinks big" and predicting the company would transition to be less like a tech company and more a luxury lifestyle brand. Reflecting Apple's continued success, CEO Tim Cook earned \$9.22 million in salary, bonuses and other compensation last year, while company stock hit new highs. Other executives received 14% raises as the company board said results had exceeded expectations. Former Burberry CEO Angela Ahrendts received over \$73 million in cash and stock, a payment that reflected special inducements required to attract her from the UK clothing firm.



No wonder he's smiling. Apple CEO Tim Cook is a very rich man.

**More board change** Former Gap CEO and current J Crew CEO Millard "Mickey" Drexler retires from the Apple board in March after being appointed by Steve Jobs 16 years ago. Drexler shared his retail experience as Apple prepared to open its highly profitable retail chain in 2001. He's the second board member Apple's lost in

the last 12 months – ex-Intuit CEO Bill "the Coach" Campbell stepped down in July last year to be replaced by BlackRock co-founder, Susan L Wagner.

Retirement of both board members follows mid-2014 claims Cook has been looking to bring new skills to the board, and mid-2013 claims that some board members were critical of Apple's new CEO. This criticism may have been misplaced as Apple continues to break quarterly records. Drexler's replacement has not yet been named.

**Record iPhone sales as Apple hits back** iPhone, Mac and App Store revenues led Apple's Q1 2015 into the record books in the quarter ending December 27, 2014. Reports of the demise of Apple in the smartphone wars proved to be exaggerated as the company revealed 74.5 million iPhones sold, also a new record.

Net profit hit \$18 billion on \$74.6 billion in revenue, up from \$13.1 billion profit on \$57.6 billion revenue in the year ago quarter. International sales accounted for 65% of revenues. The company delivered its customary conservative guidance for Q2, \$52 billion to \$55 billion in revenue. Shareholders will receive \$0.47 per share.

## Stock watch

Clem Chambers, CEO of ADVFN, the leading stocks & shares website



> US listed companies report four times a year. In the UK you only need to report twice and the once a year results, the so called year-end, is the vital moment. For Apple, every three months, the so called 8-K results are a big hairy deal. The quarterly numbers are awaited with the kind of expectation white smoke from the Vatican

gets. Its end of January results were terrific, and they spiked the share price \$8 (7.5%) to \$118 as I write.

The market believes Apple will spend \$200 billion to buy back its stock and pay dividends, a massive stock price supporting move, and will continue to be unstoppable with its world beating

products. Why not? There no longer seems to be a reason Apple can't carry on as the most amazing corporation in history. The loss of Steve Jobs is a long time ago in terms of corporate history and Apple has not fallen to pieces without him. Instead it has kept on a stellar trajectory. Meanwhile the Apple Watch is coming...



## Apple in PICTURES

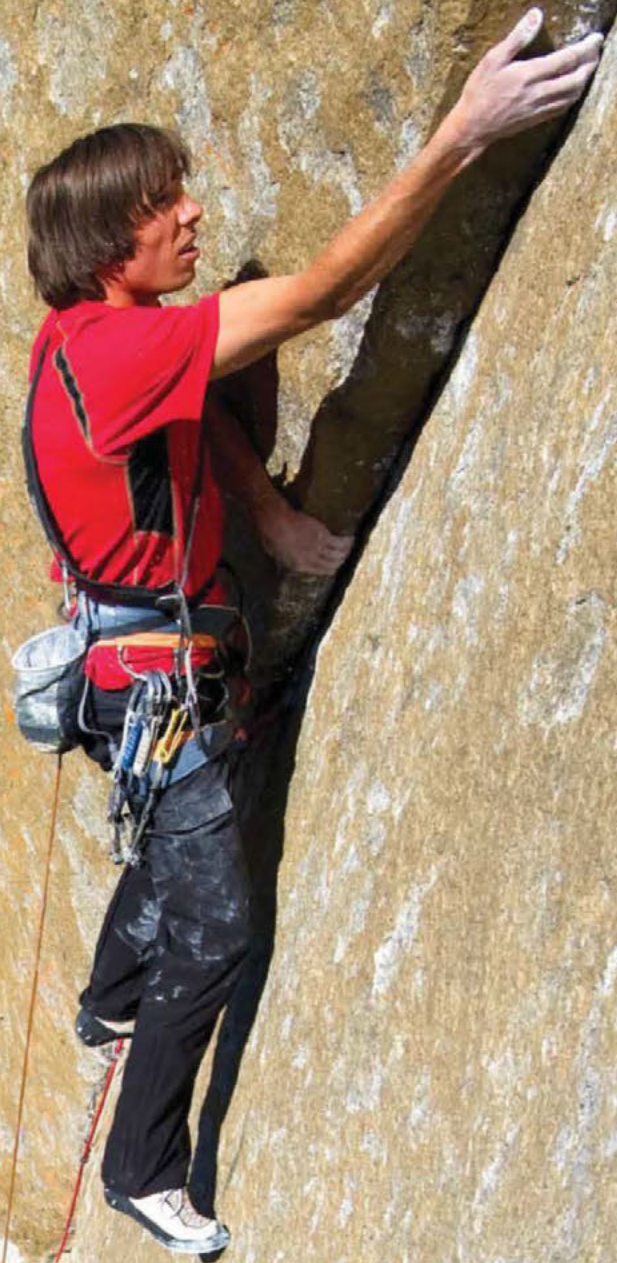
The hottest pictures  
from the world of Apple



It seems only fitting that as we enjoy OS X Yosemite, two US climbers have made history by being the first to free-climb El Capitan's Dawn Wall, in Yosemite National Park. Due to the steepness and smoothness of the route it was previously seen as unachievable. "I hope everyone can take [this] as an example of what's possible," said climber Kevin Jorgeson.



The climb was 900 metres high (three times as high as London's Shard) and took 19 days.





# Picks from THE STORE

*We select the best apps  
& games out there*



## On our APPLE TV

What we're watching on  
the iTunes movie store



### TV SHOW The Musketeers

£2.49/episode (HD)

➤ Set on the streets of 17th century Paris *The Musketeers* is a take on the adventures of elite soldiers and bodyguards at a time before the French Revolution. Classic yarns from the BBC.



### FILM Pride

£9.99

➤ *Pride* is a story about gay activists who decided to help the miners during the 1984 miners' strike. A tabloid newspaper's attempt to smear the gay supporters fails, and the miners march at the Pride rally to support their gay friends.



## SLACK

**Free to use** Developer Slack, slack.com **Works with** Mac, iPhone, iPod touch, iPad



If you've not yet heard about Slack then you should take a look. The company says it's, "on a mission to make your working life simpler, more pleasant and more productive" and with the release of Slack it has been true to its bold words.

In a nutshell, Slack has a powerful and extensible platform that helps manage projects and teams by keeping all your files, messages and documents in one place.

The software enables teams to collaborate across iOS devices, the new Mac app and as web apps for other platforms. There's dozens of features too – from voice and video message service integration to project and task management, to file sharing, Dropbox, Twitter, Google services integration and more.

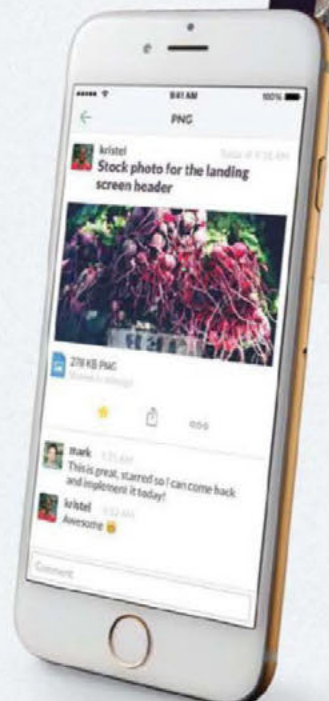
One thing it does especially well is making it clear who is working on what. In use, any user can create channels for projects, groups or topics and participants can exchange files, messages, comments, images, video.

Slack also offers a notification system to let you know if anyone mentions a word or phrase. You gain complete history and search capabilities within each channel so it's easy to find that in a particular message or item.

Slack is simply one of the best and most intuitive team or project collaboration solutions we've seen yet.

Best of all, Slack's dedicated Mac app integrates with OS X's Notifications system, so you never miss an important item.

*Slack is simply one of the  
best and most intuitive  
team or project  
collaboration solutions  
we've seen yet*





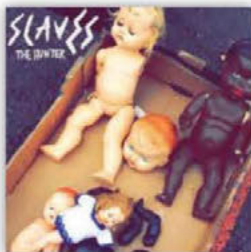
# From the Store





## On our PLAYLIST

What's on the office speakers



### MUSIC Slaves, The Hunter

99p

➤ Don't miss the debut single from this UK-based duo.

Already nominated for the BBC Sound of 2015 award, Slaves don't play "nice" songs. These post-punk mavericks are clearly more influenced by the angry polemic of The Streets or John Cooper Clarke than the likes of Rihanna.



### PODCAST Freakonomics Radio

Free

➤ The weekly *Freakonomics* podcast is hosted by journalist Stephen Dubner and economist Steve Levitt, authors of best-selling book, *Freakonomics*. They try to show "the hidden side of everything" with content covering a wide series of thought-provoking topics.



## Lumino City

**£9.99** Developer State of Play Games, [luminocitygame.com](http://luminocitygame.com)  
Works with OS X 10.6 or later



This amazing looking puzzle game took three years to make, including the creation of a 10-foot high miniature paper city. You are Lumi and your mission is to explore Lumino City to find your kidnapped grandfather, solving puzzles and meeting city inhabitants as you do. All the point and click adventure game action takes place in the stunningly designed paper city, where digital arts meet sculpture.



## 123D Sculpt+

**Free** Developer Autodesk, [123dapp.com/sculptplus](http://123dapp.com/sculptplus)  
Works with iPad



Autodesk's fantastic iPad app lets you create 3D sculptures like a pro. Choose a shape from the included collection (or import your own, or even buy new shapes in-app) and manipulate them to your heart's content using the app's extensive array of tools. If you like your sculpture you can take photos, create animations or even export your creation as a 3D file you can then create with a 3D printer.



## AllCast

**Free (£3.99 to remove ads)**

Developer ClockworkMod, [allcast.io](http://allcast.io)  
Works with iPhone, iPad, Apple TV



AllCast lets you stream photos and video from your Dropbox, Google Drive, Picasa and Google+ account to your TV, using Apple TV, without jailbreaking your devices or set-top box. It also lets you beam media from Facebook and Instagram to your TV. It *also* lets you use other TV streaming solutions, such as Xbox, Roku or Chromecast devices with your iPhone.



ULTRA HD

Blackmagicdesign



# DAVINCI RESOLVE 11

**DaVinci Resolve 11 now adds professional nonlinear editing to the world's most powerful color grading system!**

DaVinci Resolve 11 combines the world's most advanced color corrector with professional multi track editing so now you can edit, color correct, finish and deliver all from one system! With its legendary image quality, real-time GPU accelerated performance, and support for more wide dynamic range RAW formats than any other system, DaVinci Resolve has the creative tools professional editors and colorists need to work on Hollywood's most demanding projects!



## Integrated Editing and Grading

DaVinci Resolve 11 gives you professional editing and color correction all in one system so you can move between editing and grading with a click of the mouse! No more importing, exporting, or conforming ever again! Teams can have multiple colorists and assistants working with an editor on the same sequence at the same time! You get a true nonlinear workflow that lets you edit, grade and finish faster than ever before!



## Professional Nonlinear Editing

DaVinci Resolve's multi track timeline lets you quickly ripple, roll, slip, slide, extend and shorten edits. The context sensitive trim tool changes automatically based on the position of the mouse to make editing faster! Dynamic JKL trimming works on multiple tracks and can be done in the same direction or asymmetrically. Whether you use the mouse or keyboard, Resolve is easy to learn and has all of the tools professional editors need!



## Native Camera RAW

DaVinci Resolve works natively with all major RAW formats! Featuring the industry's most advanced de-bayer algorithms, Resolve preserves every detail captured by the camera's sensor. That means you can adjust exposure, shadows, highlights and mid-tones long after the camera stops rolling! With Resolve, you can create looks that simply aren't possible on other systems. The native RAW workflow means your final masters are literally first generation renders from camera original files!



## Scalable Power

Hollywood's leading studios choose DaVinci Resolve because it handles incredibly high resolution images and massive amounts of data easily on super tight deadlines. Resolve is scalable and works on laptop's up to massive multi GPU systems connected to shared storage. Whether you're working on HD, 4K or beyond, DaVinci Resolve has the power, performance and creative tools you need to get the job done!

### DAVINCI RESOLVE 11 LITE

Free download with unlimited nodes.  
Supports 1 GPU.

**Free Download**

### DAVINCI RESOLVE 11 SOFTWARE

Full Resolve with unlimited nodes and multiple GPUs.  
Use 3rd party control panels.

**£645\***

### DAVINCI RESOLVE 11

Full Resolve with colorist control surface  
for the most advanced facilities.

**£19,445\***

[www.blackmagicdesign.com/uk](http://www.blackmagicdesign.com/uk)

\*SRP is Exclusive of VAT

Blackmagicdesign





# GADGETS

*Hot gear on the horizon... what's got us excited?*



**WE'RE MOST EXCITED ABOUT...**

## B&O BEOSOUND MOMENT

**£1,800** [bang-olufsen.com](http://bang-olufsen.com)

*It integrates your  
music & streaming  
services with a  
mood-matching  
colour wheel*

**What is it?** Bang & Olufsen is keeping up with the times by creating a music system that integrates your music collection and streaming services with a touch-sensitive wooden interface and a colour wheel. The wooden side of the detachable control panel is completely minimalist, working a bit like an iPod click-wheel, while the colour wheel allows you to set your mood, with the Beosound Moment choosing music to match.

**When's it due?** Available soon.

**Why are we excited?** B&O is renowned for great sound and gorgeously styled audio products. The luxurious nature is obviously crave-inducing, but what B&O has done on the usability side is equally impressive.





## BrydgeAir

From £112 [brydgekeyboards.com](http://brydgekeyboards.com)

**What is it?** In an attempt to make an iPad Air keyboard case feel more like a laptop, Brydge Keyboards has made this case from a single piece of high-grade aluminium (much like MacBooks). It packs stereo speakers, backlit keys and a 180° folding hinge.

**When's it due?** Buy online now.

**Why are we excited?** It's a premium price for an iPad case, but few match the look and feel of this one. We're fed up with plastic cases, so it's about time the iPad felt like a real laptop. There's one for each iPad Air colour type too, including gold for the iPad Air 2.

## Withings Activé Pop

£119 [withings.com/uk](http://withings.com/uk)

**What is it?** This watch and activity tracker (run, swim, sleep) has a classic Swiss feel to it with its PVD-coated watchcase and the smooth silicone strap. Activé Pop features two dials, one showing the time and a smaller dial showing percentage progress of specific activity goals. The objective is set within the iPhone app, and when the goal is achieved the watch vibrates. Time to get fit!

**When's it due?** It's available right now.

**Why are we excited?** We admit the Apple Watch might not be for everyone, and if you love analogue and round, then the Activé Pop could be for you. It's not a full smartwatch, but if it's just activity recording you're after this is a gorgeous wrist companion.



## Polaroid Zip Mobile Printer

\$129 (about £85) [polaroid.com](http://polaroid.com)

**What is it?** The Polaroid Zip pairs wirelessly to an iPhone or iPad, enabling users to instantly print 2x3-inch colour photos via the free app. It weighs just 186g and can be taken anywhere. It's also not much bigger than a smartphone and less than an inch thick. The only physical control is a power button which has been seamlessly integrated into the unit's sleek design.

**When's it due?** Coming soon.

**Why are we excited?** Let's face it, none of us adore our bulky home office printers and we don't print out as many photos as we should. This tiny printer is just the thing to make us fall in love with glossy prints again. It looks great too, sporting a striking high-gloss finish augmented by the iconic Polaroid Color Spectrum logo. The app also features the kinds of speedy editing tools you would expect too, like brightness, contrast, tint and retro/HDR filters.



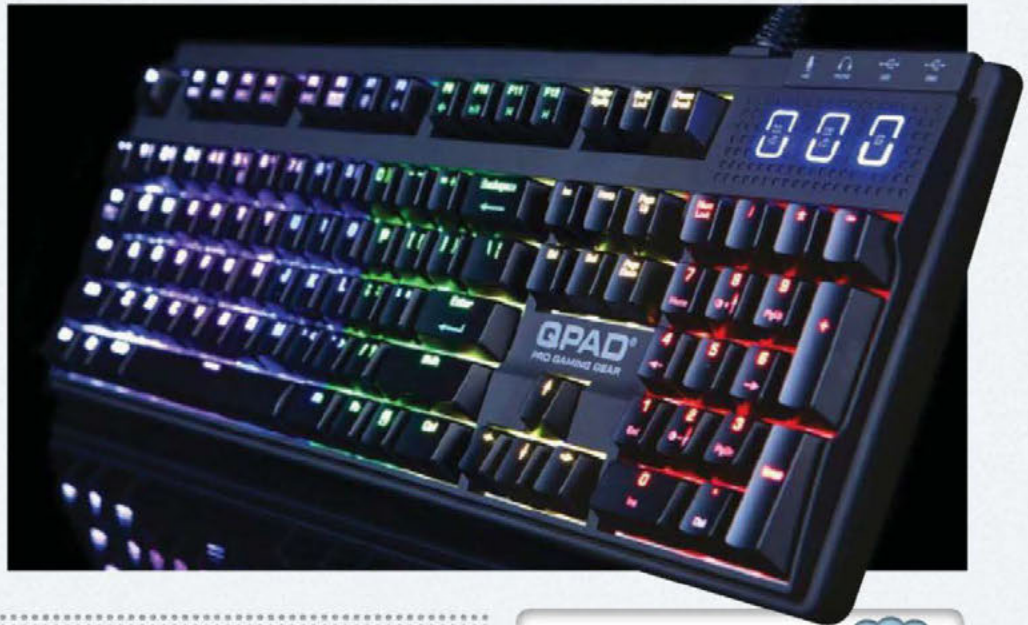
## QPAD MK-90

£125 [qpad.com](http://qpad.com)

➔ **What is it?** If you're serious about gaming then you'll know that some titles demand a lot of keyboard work, and there's a lot to remember for the more complex MMOs. QPAD's range of keyboards are considered to be 'the business' by top desktop gamers and the MK-90 takes things further by allowing gamers to customise the lighting of the keyboard, either to match a mood or to 'zone' areas for a particular use in a game.

**When's it due?** March 2015.

**Why are we excited?** The humble keyboard is rarely given much attention these days, so this is impressive. It not only looks cool, but enhances game experiences too. You can even coordinate colours with the beat of the music.



## Thalmic Labs Myo

\$199 (about £135) [thalmic.com](http://thalmic.com)

➔ **What is it?** It's a gesture-controlled armband for Macs and iOS devices, using muscle sensors to enable the wearer to control devices with a flick of the wrist or the clench of a fist.

**When's it due?** You can pre-order one now.

**Why are we excited?** It can be used with apps such as Keynote, so presentations can be controlled on your Mac by waving left/right to move between slides and making a fist to annotate. On an iPhone you can control music mid-jog by performing the gestures in the air.

## HP ENVY 34c

\$999 (about £650) [hp.com/ENVY](http://hp.com/ENVY)

➔ **What is it?** This curved desktop monitor boasts a 3440x1440 resolution and a 21:9 aspect ratio with a high-contrast VA panel. It also includes impressive six-Watt DTS-certified built-in speakers and a clever picture-in-picture mode for beaming content from other devices.

**When's it due?** Should be April.

**Why are we excited?** Curved isn't for everyone, but we like what we see here. The 34-inch display features low reflectiveness and a panel response of eight milliseconds along with low motion blur (ideal for gamers). HP is also working on a 27-inch model that will retail for a more affordable \$399 (about £265).



# Think different

Decidedly off-the-wall

## Apple Juice

\$40 (about £27) [photojojo.com](http://photojojo.com)

➔ **What is it?** Battery packs for your iPhone tend to take the form of a boring black box, so it's nice to see this juice carton-like alternative brighten up your desk. You get two to three servings (full charges) from it too, so it's a lot longer-lasting than many other top-up solutions.

**When's it due?** Power up now!

**Why are we excited?** It always feels like you've been defeated when you have to pluck a black box from your pocket and connect it up for that extra bit of charge. With this though, emergency charging feels a lot more fun, and you won't be embarrassed about connecting it up. In fact, it looks like it belongs in your lunchbox or picnic hamper. We like the smiley apple face too. Cute!





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Speakerphone



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The Sonivo SW100 Bluetooth Speaker combines slick and stylish design with modern technology, designed for people on the move. With built-in Bluetooth connectivity the speaker gives you a way to enjoy streaming your music wirelessly from your hand-held device or laptop. The SW100 also doubles up as a wireless hands free speaker, allowing you to make and take calls directly from the speaker without needing to interact with your mobile device. The SW100 comes packaged in a premium crystal display box and is available in a variety of colours, graphite black, electric purple, emulsion white, electric blue, titanium grey and gold steel. The SW100 can be purchased from [www.sonivo.com](http://www.sonivo.com) and [Amazon.co.uk](http://Amazon.co.uk). For more information please contact [info@sonivo.com](mailto:info@sonivo.com).

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Available from:

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*One more thing...*

# DO YOU FEEL LUCKY, PUNK?

*Apple is a grizzled gunslinger, famed across the land  
– but who's hiding behind that horse?*



Despite what we've seen in many Westerns, living in the Old West wasn't much fun. Life was cheap, times were hard and people didn't

smell so good. I reckon it was particularly bad for the gunslingers – the good ones, the ones who lived long enough to become legends. What a pain in the backside their lives must have been, their fame ensuring that wherever they turned, some hip young gunslinger would be there to try and take them on.

And eventually, one of those youngsters would win. The legend would have an off day, distracted by a whisky hangover, thoughts of lusty maidens or the kind of severe toilet disasters you'd be bound to encounter in an age of poor sanitation. A moment's hesitation, a failure to check behind a door or underneath a horse, and some bum-fluff beard in a black hat would pop six shots through your skull. Apple probably knows how that feels.

I'm writing this in the middle of an online storm about Apple's software, with many people suggesting that if Apple treated hardware the same way it currently treats OS updates it'd be shipping MacBook Airs with missing screws. I'm not convinced that Apple's quality is in precipitous decline.

*Apple is the legend  
everybody wants to  
take on – foes are  
hiding behind horses  
and saloon doors*



Hasn't it always been pretty ropery on the software side, especially when that software connects to web-based services? MobileMe, anybody? But there have been plenty of high profile problems with OS X and iOS.

If the best its competitors could come up with was Windows Vista and BlackBerrys, then that wouldn't be a problem. But while some rivals are still pulling their guns and repeatedly shooting themselves in the foot – I'm thinking of something beginning with "W" and ending with "indows 8" – others are getting better at what they do. Take Android, for example. Five years ago the OS was a mess and the phones a joke. Not any more.

Maybe it's that Apple is trying to do too much. Or maybe it's that Apple's popularity

and click-worthiness means molehills are being blown up to mountain size for traffic. Either way, I'm reminded of our grizzled gunslinger. Apple really can't afford to have an off day any more. Because while the company still makes the best stuff, the alternatives have got an awful lot better – and they often cost an awful lot less too.

Nowadays Apple is the legend that everybody wants to take on, and some of the youngsters hiding behind horses and saloon doors are pretty good shots.

**Freelance writer Gary Marshall lives in the Wild West. Of Scotland. "It's like the Old West with Buckfast instead of whisky," he says.**





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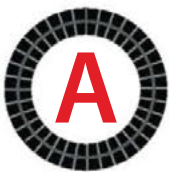
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# Inside Apple Campus 2

Welcome to Apple Campus 2, the future of the workplace, designed by Apple, in California

Words: Graham Barlow Images: Getty Images, Apple Inc, Apple Toolbox, Myithz



As an Apple fan you've probably heard all about the new Apple Campus by now. The doughnut-shaped building that looks more like a spaceship than an office.

With work well underway, and the building starting to take shape on the ground, it's time to revisit the project and see how it's getting on.

In 2010 Apple purchased a 98-acre campus from Hewlett Packard (HP), containing offices

and car parks, just up Interstate 280 from its current headquarters in Cupertino, California. Five years previously Apple had started mopping up adjoining properties and announced they wanted to build a new campus on it, but the residents of Cupertino could only guess at the reasons for Apple's latest, massive land grab. Surely this was too much land for even Apple's grand designs? Then on 7 June 2011, Apple CEO Steve Jobs turned up at the Cupertino City Council to reveal Apple's plans.

Despite looking noticeably thin (sadly, Jobs died from cancer later that year), he was in buoyant mood. Apple, he declared, was "growing like a weed", which meant the company had run into difficulties trying to find suitable offices for all its staff in its beloved Cupertino.

But of course Apple didn't want to build a typical set of corporate offices. Instead, it wanted a brand new kind of megastructure at the heart of a huge campus that looked like the exact opposite of a corporate headquarters. Jobs was





## *The architects*

When Steve Jobs said he had the best architects in the world working on Apple Campus 2, he wasn't kidding. He was talking about Foster + Partners. It all started when Norman Foster, the founder and chairman, received a phone call from Jobs out of the blue. Speaking in the promotional video about Apple Campus 2 he recalls the call. "It's Steve. Hi Norman, I need some help," he remembers. "I was out there three weeks later."

Foster + Partners is a world renowned firm of architects based in London with offices worldwide and has been involved in creating innovative workplaces and many other types of structures for over four decades. Its groundbreaking designs include the UAE Pavilion at the Shanghai Expo 2010, the Millennium Bridge in the UK, Kuwait International Airport and the Sage Gateshead.

Steve Jobs was determined that Apple's new HQ would be different. But was his circular design inspired by UFOs or doughnuts?

at the council offices to get the planning permission for his new venture. And, typically, he was going to pull out all the stops to get it.

## **Sacred land**

To set the scene, Jobs told the story of how the land itself was sacred to Apple folklore. At the same time as a young Steve was working in his pivotal first job for his technology idols, HP had secured the area for its new campus. But before that, Jobs remembered that the area was part of

the traditional landscape of California from his youth – acres of fruit trees and apricot orchards (which becomes relevant later).

Much like he had wowed the world's media at the launch of the iPhone, Jobs wowed the city councillors with tantalising artist impressions of what the new HQ would look like – a kind of flying saucer, or a large doughnut if we're honest – four storeys high, sat in 175 acres of lush green parkland filled with trees. "We've seen these office parks with lots of buildings, and they get

boring pretty fast, and we want to do something better than that", explained Jobs, commenting on the futuristic, UFO-shaped building.

The main building is a perfect circle, with curved glass all around. "There's not a straight piece of glass in this building", said Jobs. Adding: "If you know about building, you know that this is not the cheapest way to build something".

Apple rarely spares any expense in its offices. It has over 300 retail stores, and while they all share a common theme of bright, airy open space,



with lots of glass and wooden tables, each one is unique and designed to perfectly complement its surroundings. Because of the Apple Store in Pudong, Shanghai, the company has a lot of experience in building with, and manufacturing, curved glass. In fact, the Shanghai Apple Store contains the largest pieces of curved and toughened glass ever manufactured. "We know how to make the biggest pieces of glass in the world for architectural use," boasted Jobs. "It's pretty cool."

"This project is pushing the boundaries of technology in almost every aspect", says Stefan Behling, an architect from Foster + Partners speaking in Apple's promotional video for the new campus. "The facade will be new, the glazing is a completely new system, never been done before, the concrete structure is unique. Everything is hand crafted for this project."

The interior of the office space is also anything but conventional. Few details have emerged, but Behling is keen to point out that "we have a building that is pushing social behaviour and the way people work to new limits."

***Everything in this project is hand crafted. It's pushing the boundaries of technology***

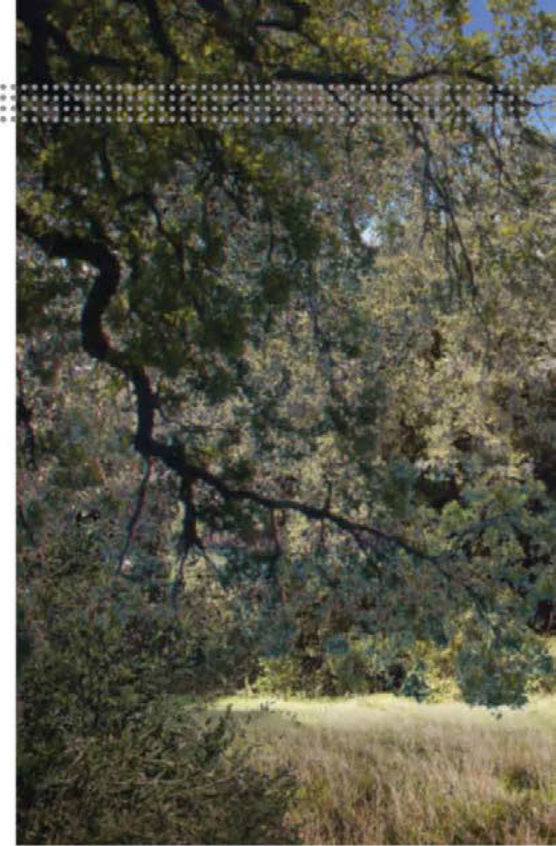
While the doughnut-shaped main building is remarkable, perhaps the biggest feature of Apple's super campus is what they're not building on the site. A staggering 80% of the site will be landscaped parkland, and to make this possible Apple has decided to put most of the parking underground.

Another way the campus buildings work in harmony with their surroundings is their height – all the structures on the site are only four storeys high. So while the main building may dominate in terms of size, it's not going to artificially tower over its surroundings like a skyscraper would.

## Powerful stance

Like all other companies, Apple is dependent on the power grid, and if there's an outage they don't want to have to send everybody home for the day. The site will have its own power source as a backup. In fact, in typical Apple thinking, Steve revealed that the energy centre could become the primary source of power for the campus, since Apple can generate its own power using solar panels in ways that are cleaner and cheaper than conventional grid power, and use the grid as their backup. Not even public electricity is good enough for Apple!

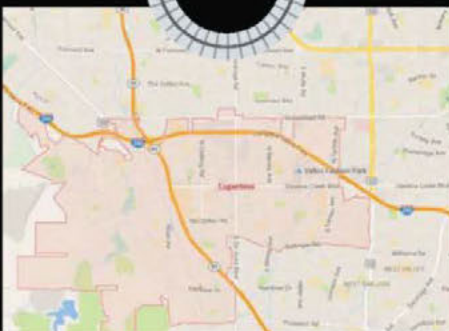
Another feature of the new campus is a specially designed auditorium. Part of Apple's whole run up to releasing a new product is the keynote delivered by the CEO. Currently the company has to go to San Francisco to host these events, usually at the Moscone Centre, or



the Yerba Buena Center for the Arts over the road, presumably at vast expense and inconvenience. With a purpose-built, auditorium in their own backyard, Apple will be able to stay home while the world's press comes to visit.

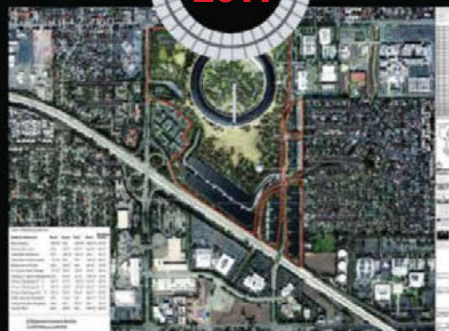
But let's return to Steve Jobs presenting to the Cupertino City Council in 2011. All he needed was the council to give Apple planning permission for the building. It was clear Jobs, perhaps the greatest salesman in history, wasn't going to walk away from the meeting empty handed. Wowed by his movie star-like presence,

## The construction timeline



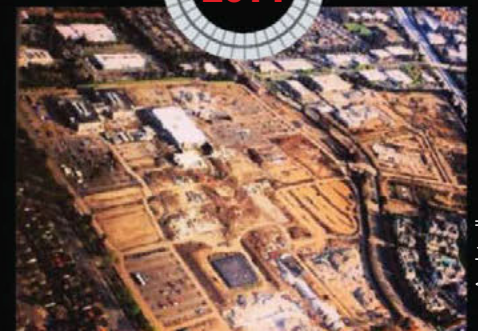
### Campus plans revealed

In 2006, Steve Jobs announced to the Cupertino City Council that Apple had acquired nine properties in Cupertino to build a second Campus. No designs were revealed at the time, so nobody knew what to expect. The project was expected to be finished by 2015.



### The designs go public

Steve Jobs radically updated Apple's plans, which was the first time the public got to see what Apple intended. The plan view of the proposed site shows just how large Apple's main building will be – it's a building unlike any other in the area, nestled in a green oasis.



### Demolition work started

The first stage of the construction was to remove the existing office buildings and flatten the site. The full size of the site is now visible, and it becomes obvious that Apple is creating something very big and very special on this patch of sacred ground in Cupertino.

Image: Appletoolbox.com



## APPLE'S NEW HQ



All parking will be underground and an extraordinary 80% of the site will be landscaped parkland.

the council put up zero resistance (there was one question about what local residents would get out of the campus under the guise of a demand for free Wi-Fi, but Jobs brushed it off with the thinly veiled threat of taking their tax dollars to Mountain View if the council denied him here).

### Money talks

Unsurprisingly the Cupertino City Council folded to Jobs and his tax dollars quicker than new iPad Airs fly off the shelves, the project got the go-ahead it needed and Jobs left a happy man.

Of course, Steve Jobs died in October that same year without ever seeing ground broken on a project that could arguably become his greatest legacy. After all, Apple Campus 2 will still be here long after the Mac, iPhone and iPad are consigned to footnotes in history. It's ironic that Jobs didn't live to see Apple Campus 2 completed, because it carries all his hallmarks. Part futuristic mothership, part nostalgic recreation of his childhood years, it combines his twin obsession with sleek minimalist design and ground-breaking innovation.

Jobs once said, "When you're a carpenter making a beautiful chest of drawers, you're not going to use a piece of plywood on the back, even though it faces the wall and nobody will see it. You'll know it's there, so you're going to use a beautiful piece of wood on the back. For you to sleep well at night, the aesthetic, the quality, has to be carried all the way through."

If the new Apple campus lives up to the perfect, understated simplicity and attention to detail of its designs, its looks will be a fitting tribute to the man who founded Apple.



Image: Appletoolbox.com

### Cleared space

In just two short months the whole site has been flattened, the rubble taken away and the road that bisected the site removed. Now the ground is ready for Apple to start building the new campus, as well as plant all those trees it's promised to deliver.



Image: www.youtube.com/myjthz

### Starting to take shape

As the year came to a close the main building was clearly starting to take shape. You can see that the foundation layers are being constructed. The lake in the centre has also been filled with water, although it's possible this is rainwater that hasn't drained away.



### Campus 2 opens!

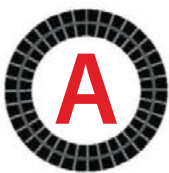
If it all goes to plan, the new campus will be ready. Electric cars will also be available to help employees get to the door of their office once the new Apple Campus 2 opens its doors. And from then on you can expect all your Apple keynotes to be delivered from here.



Apple Campus 2 will use 30% less energy than a typical office building. Air flows freely between the inside and outside, providing natural ventilation 75% of the year.



## How green is Apple Campus 2?



Apple was initially singled-out for criticism by Greenpeace for its non-recyclable iPods in 2007, which gave the company something of a wake-up call. So much so that it was praised in 2014 for its use of renewable energy and improvements in using highly recyclable materials. For example, Apple's Maiden, North Carolina data centre has the USA's largest privately owned, on-site, solar array, and is powered by 100% renewable energy. The latest renders of the new Apple Campus 2 supplied to the Cupertino City Council show that the roof space is almost entirely tiled with solar panels. That's over 500,000 square feet, and could be used for generating energy.

In typical Apple style, the new Campus 2 has plenty of exciting technologies hidden behind the picturesque landscaped parkland, and most

of them put an emphasis on helping to save the environment. Apple Campus 2 will use 30% less energy than a typical R&D office building. The building itself is designed so air flows freely between the inside and outside, providing natural ventilation for 75% of the year. The new campus is being built from the ground up to meet the highest environmental standards set by LEED, an internationally recognised green building rating system.

### Feeling fruity

Perhaps the most green thing about Apple Campus 2 though, are the amount of trees, which will be hard at work turning carbon dioxide into oxygen. Just under 80% of the campus site will be open parkland, populated by more than 7,000 trees. Some of the existing trees are being preserved, but Apple is planting more than 6,000 new shade and fruit trees.

Drought-tolerant plants will be used throughout the landscape to minimise water use.

Finally, there's the impact of the work force on the environment. Getting to and from the new campus will be greener, too. Over a third of Apple's nearly 15,000 employees in Cupertino can commute to the new campus using its biofuel buses, public transit, bicycles, carpools, and their own two feet. Over 1,000 shared bicycles will also be available for getting around Apple Campus 2. And for green drivers, there will be 300 electric vehicle charging stations.

With 12,000 people working in one building, parking requirements will be substantial. Apple's solution is to move the majority of parking underground. This enables the majority of the site to become beautiful landscaped parkland, much more attractive than acres of black asphalt. There will also be some above ground parking, but the vast majority will be underground.

## Have Apple's products got any greener?

Watch any Apple keynote these days and you'll continually hear reference to the green credentials of its products. "Highly recyclable materials" and "lower power consumption" are phrases you'll hear rolled out time after time. But the questions remains, have Apple's products actually got any greener?

In a 2014 report entitled "Clicking Clean: How Companies are Creating the Green Internet," Greenpeace praised Apple for its efforts, marking it higher on its energy footprint than all its competitors. It was especially lauded for its commitment to power its data centres with 100% renewable energy (including power sources such as wind and solar), something

it has achieved. It's a genuine turn around for Apple, which was heavily criticised in Greenpeace's 2011 report, for running its data centres on eco-unfriendly coal and nuclear power.

There's no doubt Apple is using greener materials, less packaging in its products and trying harder to keep old products out of landfills than it used to, but can a company that makes technology products really be described as green?

As Apple CEO Tim Cook says at [apple.com/uk/environment](http://apple.com/uk/environment): "We have a long way to go, and a lot to learn, but now more than ever we will work to leave the world better than we found it. And make the tools to inspire others to do the same."



Apple no longer use coal and nuclear power and instead its data centres rely on 100% renewable energy, which has earned Greenpeace plaudits.



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# Networking secrets revealed

Networks might seem complex, but the fixes for poor range and connections are often simple. Here's how to improve yours...

Words: Kenny Hemphill Illustrations: Magictorch, Paul Blachford

W

Whether you're streaming music from Spotify, listening to the radio, or watching movies on Netflix, you rely on having a speedy and stable connection to the internet. Most of the time we don't even think about it – online content has become as easily accessible as that stored locally. Until, that is, things go wrong.

Whether your ISP suffers an outage or, as BT customers experienced at the end of last year, DNS problems, or your own Wi-Fi network stumbles and fails, it's a frustrating and, if you rely on it for work, potentially costly experience.

The good news is that there's a great deal you can do to improve the performance of your Wi-Fi network, and even mitigate the risk associated with a failure beyond your control, thanks to significant improvements in mobile internet connections in recent years.

One step you can take which could significantly improve your network is to upgrade your router, particularly if it's a few years old. Recent developments, such as dual bands and 802.11ac, as well as the use of the 5GHz spectrum, mean that modern routers have a number of weapons at their disposal when it comes to squeezing as much data as possible as fast as possible between your internet connection and the device you're using.

Over the next nine pages we'll explain exactly how you can make the biggest improvements to your Wi-Fi network, and we'll show you exactly what to look for if you decide to upgrade your router. We'll cover all those new technologies in detail and explain which ones matter and which you don't need to worry too much about. And, of course, we'll help you troubleshoot the network problems we all encounter from time to time.

Away from Wi-Fi, we'll show you how to extend your network, or help it reach the parts Wi-Fi can't, using the cables that carry mains power around your home or office.

Accessing the internet on the go is now second nature for most of us, but many of us are also using our mobile connection as a backup or even replacement for a wired broadband connection. The advent of 4G has made that possible, so we explain all and take you step by step through the process of setting up Personal Hotspot in Yosemite and iOS 8 so you can use your iPhone's internet connection on your Mac or iPad.



# How does the internet get to me?

Most of us never think about what goes on behind the scenes when we log on. Here's how the internet gets to you.

**W**hen you access a website, your Mac, iPhone, or iPad sends the request in the form of a web address to a domain name server (DNS), which then translates the 'http://xxxxxxx' into an IP address and forwards it to the relevant server. The server then displays the page you've requested in your browser.

Domain name servers are specified by your ISP during the set-up process, but you can bypass them and use any DNS you want, such as Google's name servers or those operated by OpenDNS.

In order for any of that to happen, however, data has to be transmitted between your device, your ISP, and the wider internet. The data sent between your router/modem and your ISP travels on either copper wire or optical cable or, more likely, both over the course of its journey. On both copper and optical connections, transmission relies on the detection of changes in energy. On a copper connection, that energy is in the form of an electromagnetic wave travelling along the wire. In an optical cable, the energy is sent as pulses of light; one pulse is one bit, no pulse is zero. Fibre optic cables have a much higher bandwidth than copper, and therefore are able to carry data at much higher speeds. Hence the difference in the rate of transmission between fibre optic broadband speeds those of a copper broadband connection.

## Roaming networks

Struggling to get a good signal when you're far away from the router? A roaming network that links several routers together could help – your Apple devices simply join the one with the best signal. *See page 35 for more.*

## Powerline

Get to hard to reach areas with a powerline kit/wireless booster. Hook one adapter up to the network, then plug another in to a power socket near your internet devices. *See page 35 for more.*

## Bridged networks

Connecting wired-only devices like your TV or games console to a wireless network can be a pain, but there is a solution – a bridged network sorts this by joining up two wired networks over Wi-Fi. *See page 36 for more.*



# Wi-Fi myths

## 1 Hiding your network's SSID will help protect you from being hacked

It's true that telling your router not to broadcast its SSID will make it 'invisible' to the average user scanning for nearby networks. It won't protect it from hackers, though. The SSID, while not broadcast, still shows up in data packets, probe requests and responses. Any hacker who's interested can use specialist software tools to scan for hidden networks. Guess which networks are more interesting to hackers: those which broadcast their SSID, or those which keep it hidden?

## 2 Filtering network access by MAC address will protect against hackers

Allowing only devices with MAC addresses you specify will deter only the most casual of hackers. Anyone armed with a network-sniffing tool will be able to see devices connected to your network and their MAC addresses. From there it's a very easy job to 'spoof' an allowed MAC address and gain entry to the network.

## 3 Wi-Fi signals can cause headaches and other ailments

Five years ago, stories in the national press claimed 2% of the UK population suffered from 'electrosensitivity', and that signals from Wi-Fi networks caused those people to suffer headaches and other symptoms.

There is no medically-recognised condition called electrosensitivity. The 2% figure was made up. Wi-Fi signals operate on a small, very crowded part of the electromagnetic spectrum. In tests, supposed sufferers were unable to identify whether a Wi-Fi device was operating nearby. Signals sent and received by Wi-Fi routers are very low energy, and they are not capable of producing the kind of biological reaction claimed by some.

## Router options

Choosing the right router is vital if you want to optimise your home's network. In 2015, any candidate should support 802.11ac wireless protocol and have plenty of Ethernet ports. *See page 32 for more.*

## IP cameras

These gadgets can be a useful way to keep an eye on things both inside the house and out. Connect them to the Wi-Fi to view the footage on your Mac, iPhone or iPad. *See page 36 for more.*

## Connection tips

There are some simple ways to improve your internet connection. Making sure your router isn't blocked by furniture or directly connecting it to your Mac can give you the extra power you need. *See pages 34-35 for more.*



# How to choose a router

## Which wireless router is right for your setup?

**T**he first port of call for many Mac users when choosing a wireless router is Apple's AirPort Extreme. And with very good reason; it's an excellent router. It supports the latest 802.11ac wireless protocol, with its theoretical maximum throughput of 1300Mbps. It also supports 80MHz-wide channels. And it has beamforming technology, which focuses the signal from the router to your device, meaning you should always get the strongest possible signal.

The other reason you should consider an AirPort Extreme, or a Time Capsule, is that you can be confident of compatibility with all your Apple devices. While that should be the case with other routers too, WDS (wireless distribution system) implementation varies between vendors, and having your router and devices from a single vendor is likely to be optimal.

If your budget won't stretch to AirPort Extreme and you don't need the additional Ethernet ports, consider AirPort Express. You can plug its WAN port into an Ethernet port on your ISP's modem router and use it to create a wireless network instead of the modem router.



**Time Capsule is a thing of beauty. It also happens to be an amazing router and backup device. Well, isn't that rather handy?**

If you need additional Ethernet ports, or just don't want an Apple router, there are plenty of other choices. Those with external antennas are generally more able to maintain a strong signal than those which keep them inside the case, but they're unsightly, so you might not want one in the living room.

Other features to look for include WPS (wireless protected setup), which allows you to connect devices like printers at the press of a button; the ability to connect a hard drive and make it available on the network; the ability to create a guest network; and, most importantly of all, support for WPA2 security.

## Is dual band necessary?

**D**ual band routers are able to operate on both the 2.4GHz and 5GHz spectra. Each has advantages and disadvantages. The 2.4GHz spectrum, which until around five years ago was the only option, is the faster of the two, but also the most congested. Not only do devices on 2.4GHz have to compete for bandwidth with other Wi-Fi kit, but also with Bluetooth and microwave ovens. The 5GHz spectrum is less congested, but has a shorter range.

If you're having problems maintaining a stable connection to your router, and you've eliminated other obvious causes, such as the position of the router (it should, ideally, be away from walls and other obstructions), congestion could be the problem.

Most dual-band routers can be configured in one of two ways. You can either create one network, with one SSID and one password, and allow the router to decide whether your 5GHz-capable device connects at 5GHz or 2.4GHz, or you can create a separate network for each frequency and manually connect to whichever you choose.

In automatic mode, some routers will always put 5GHz-capable devices on the 5GHz network, keeping the 2.4GHz network for everything else. That sounds logical, but it means that newer devices, the ones which support 5GHz, will always be consigned to the shorter-range network.

## Is 802.11ac worth it?

802.11ac is the most recent Wi-Fi protocol and supported by most modern routers. It offers a theoretical maximum throughput of 1300Mbps. That may seem like overkill, particularly if your broadband speed is measured in tens of megabits or even less. But that figure is a theoretical

maximum, in practice you'll get far lower speeds, something which is also true of 802.11n and 802.11g. Then there's the issue of how many devices you have on your network. More devices means more competition for bandwidth. Suddenly 1300Mbps doesn't seem so ridiculous.

Besides, when you buy an 802.11ac router, you don't just get 802.11ac. You get other modern features too, like beamforming, support for wide channels, WPS and guest networks. MIMO (multiple input multiple output), which allows for the use of multiple antennas to improve

performance, was also boosted by the 802.11ac standard.

Before choosing an 802.11ac router make sure your Mac and other devices support it. Most Macs released from the second half of 2013 onwards have support for 802.11ac, as do the iPad Air 2, iPad mini 3, and iPhone 6 and 6 Plus.



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# Speed up your network

There are all sorts of things that can slow down your local network. Here are a few tips on optimising it.

**T**he first thing to check if you notice a sudden slowdown in Wi-Fi speed is that you're connected to the right network. There are so many Wi-Fi networks around, and neither OS X nor iOS is particularly good at choosing the 'right' network when presented with several options. Go to the Wi-Fi menu bar item in OS X, click on it and click on your network, if it doesn't have a tick next to it. In iOS, go to Settings > Wi-Fi and tap your network's SSID if it's not connected. One common example is where you use a BT Home Hub as a broadband router. The Home Hub, as well as acting as your router, also advertises itself as a hotspot. Click on the Wi-Fi menu bar item in OS X and you'll see the SSID of your Home Hub, as well as 'BTWifi-X' and 'BTWifi-with-FON'. The latter two are hotspots, but despite the fact that they use same router, seem to operate at significantly reduced speeds compared to your SSID. To your Mac, or iOS device, however, they are all equally close, and so sometimes they will connect to the FON hotspot, which doesn't need a password, rather than your SSID. To minimise



**Repositioning the external antennas on your router, if it has any, is a simple way to improve its performance.**

the chance of this happening on your Mac, open the Network preferences pane in System Preferences, click on Wi-Fi > Advanced, and drag your SSID to the top of the list and BTWifi-with-FON to the bottom. In iOS, tap on Settings > Wi-Fi, tap on the 'i' next to the FON network, and slide Auto-Join to off.

Another simple way to improve the speed and reliability of your wireless network is to change the position of your router. Ideally, it would be floating in the precise centre of the room where you most often connect to it. That's not possible,

obviously, but your aim should be to get it as close to the centre as you can, other considerations notwithstanding. So, on a shelf at head height is ok, but in a corner on the floor behind the sofa isn't. Try different positions and use Wireless Diagnostics (see box) to find out what difference it makes. If your router has external antennae, try repositioning those first.

If your options are limited by the positioning of your telephone or cable socket, consider buying a separate wireless router and connecting it to your router modem with an Ethernet cable or using powerline (see below). You'll need to set your new router to bridge mode to stop it handing out IP addresses, so that it acts purely as a wireless access point and allows your modem router to handle everything else. That will give you more flexibility in where you position the wireless access point.

## Choose a channel

In most cases, you should leave the router set to select channels automatically – it will do a pretty good job of keeping devices apart. If you find

## Analyse your Wi-Fi network

**T**he Wireless Diagnostics tool built into OS X helps you analyse your network. The quickest way to access it is to Alt-click the Wi-Fi menu in the menu bar and then its name.

In Yosemite, click on the Window menu and select Performance. In Mavericks and Mountain Lion, choose Utilities from the Window menu, and then the Performance tab (you might have to click Monitor Performance in the main dialog first).

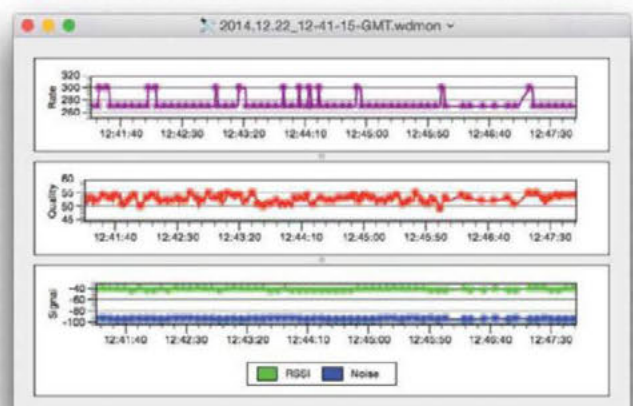
Depending on which version of the OS you're running, you'll see one or more graphs. In Yosemite, there are three: one showing transmission rate, another displaying signal quality, and a third which shows signal and noise levels.

In order to get a reliable signal, you should have a signal strength somewhere between -60 and -10dBm and a noise level below -75dBm. The smaller the gap between signal and noise, the more likely the signal will suffer from interference.

It's worth keeping Wireless Diagnostics open for a few hours and checking the graphs periodically. Signal strengths might look fine in a one-off check, but spikes in radiation from nearby appliances, as can happen when they are switched on or off, can affect performance and

can be identified on the graphs. If you identify problems, use the tips above to try and resolve them.

The Wireless Diagnostics tool indicates signal and noise levels in decibels. Larger negative measurements for noise are bad when it comes to network performance.





that the signal-to-noise ratio is poor, however, and moving the router doesn't help, consider picking a channel manually. Don't just move to the next one, though, because the frequencies of adjacent channels overlap. Despite choosing a single channel, your router uses frequencies from at least five channels concurrently, seven if it's using wide channels, so you'll need to jump at least that many to make a difference.

Some users of recent versions of OS X, as well as iOS 8, have reported problems with Wi-Fi signals that were fixed by 'forcing' their Mac or iOS device to use their router's 5GHz network. Obviously your router and your Mac, iPhone or iPad need to support 5GHz. If you do this, and experience connection dropouts or slow Wi-Fi speed, check whether

your router allows you to create separate SSIDs for the 5GHz and 2.4GHz bands. AirPort Extreme allows this, as do BT's Home Hub 5 and many other routers. Check your router's documentation to find out how to do it. Once separated, go to your Mac's Network preferences pane, click on

Wi-Fi, then Advanced, and drag the 5GHz network to the top of the list. On an iOS device, tap on Settings, then Wi-Fi, tap on the 'i' next to the 2.4GHz network, and slide Auto Join to off. You've now told your 5GHz-capable devices to join the 5GHz network, leaving the 2.4GHz network free for those devices which need it.

### Cabled connections

If you are able, using a fixed connection to your router will always deliver a faster and more stable connection. This isn't possible on an iPhone or iPad, of course, where your only option is Wi-Fi, but if your Mac has an Ethernet port and it's close enough to your router, use a Cat-5 cable to connect the two.

Similarly, if other kit such as a Sky+ box or a games console has an Ethernet port and is close to the router, again use a cable. Powerline is useful here, too. The more devices connected directly to your router, the fewer there will be competing for bandwidth on your Wi-Fi network.

**A fixed connection to your router will always be faster and more stable**



## Roam if you want to

**R**oaming networks contain two or more wireless routers are connected using a cable, either Cat-5 Ethernet, or powerline (see box). That allows you to have a strong Wi-Fi signal at opposite ends of your house or office. You can set it up so that you have just one network, by giving both routers the same SSID, or have two networks, and allow your Mac and iOS devices to connect automatically to the one with the strongest signal.

## Powerline networking

Powerline is a system which involves using the mains power cables in your home or office to carry network data. It's an excellent way of extending your Wi-Fi network, or connecting a Mac in a distant room directly to your router.

There are several different ways you can configure it. The simplest is to connect one adapter to your router and then plug it into the nearest power socket. Don't connect it to a multi-socket extension if you can avoid it. Then plug the other adapter into a plug socket next to your Mac and hook your Mac up to the powerline adapter with an Ethernet cable.

You can also buy powerline adapters with a built-in Wi-Fi hotspot to extend your Wi-Fi network wherever you have a power socket.

The third way to use powerline is to plug the second adapter into another wireless router and use that to extend your existing network, or create a second Wi-Fi network.

Nowadays 500Mbps adapters are common, and (theoretical) speeds of up to 1200Mbps are available in the

latest adapters which use the HomePlug AV2 standard. This technology, which Devolo calls 'range+' uses the earth wire to improve speed and range.

If you stream video, or if there are lots of people and devices using the network, you should go for the fastest speeds. If you only ever use

the internet for surfing the web and email, or if you're the only one using the network, 200Mbps is fine. As with all data transmission technologies, theoretical maximum speeds are significantly higher than the sustained speeds you'll experience in everyday use.

If you want to connect wirelessly to powerline, make sure you buy a kit in which one of the adapters has a Wi-Fi connection. And if you have a NAS or other network device in the room where the powerline adapter is, pick an adapter with additional Ethernet ports.

Finally, some adapters have pass-through sockets, so you can use the plug socket they use for another piece of kit at the same time. That's very useful. In our experience, you can never have too many plug sockets.



Adapters are best plugged into wall sockets, rather than extension strips.



# Extend your Wi-Fi network

Wi-Fi not getting to the places you need it?  
Here's how to make the signal go further

**T**here are a number of ways in which you can extend the range of your Wi-Fi network. In addition to using a second router, as described in the sections on roaming and powerline networking, you can improve the performance of your current router.

Following our tips on how to speed up your network (p34) should also help extend its range, but if that's not enough, you might want to consider a Wi-Fi repeater or extender. This is a device that sits at the outer edge of the range of your Wi-Fi network and rebroadcasts the signal, thus allowing it to carry further. These devices are relatively inexpensive, usually costing between £30 and £40. They do, however, have a few problems associated with them. The first is that in order to be effective, repeaters should be situated close to your router, which defeats the objective. Secondly, Wi-Fi is omnidirectional, so in addition to



Repeaters can be used to extend the range of your Wi-Fi network, but you need to carefully consider their location for best results.

extending your network, the repeater broadcasts signals back towards the router, potentially interfering with the signal from the router. The third problem is that half the repeater's capacity is used to receive the signal it's rebroadcasting, severely limiting its throughput capacity.

## Upgradable parts

Another option, if your router has external antennas, is to upgrade them. Companies such as Edimax, Hawking and D-Link make high-gain antennas which you can swap for the existing aerials very easily. Finally, if you would prefer a DIY solution, try making your own parabolic reflector to bounce the signal from your router in the direction of the devices connected to it. Follow the instructions here: [www.instructables.com/id/DIY-WIFI-Antenna-Reception-Booster](http://www.instructables.com/id/DIY-WIFI-Antenna-Reception-Booster).

If your router can't be upgraded with more powerful antennas, there are other ways to direct its Wi-Fi signal to where it's needed.

## IP cameras

**O**ne reason to extend your Wi-Fi network is to connect a wireless IP camera. These cameras can be used indoors and outdoors, say as a baby monitor or a security camera, connect to your network and allow you to view their feed on a Mac, iPhone, or iPad. With a little configuration, you can view the feed over the internet.

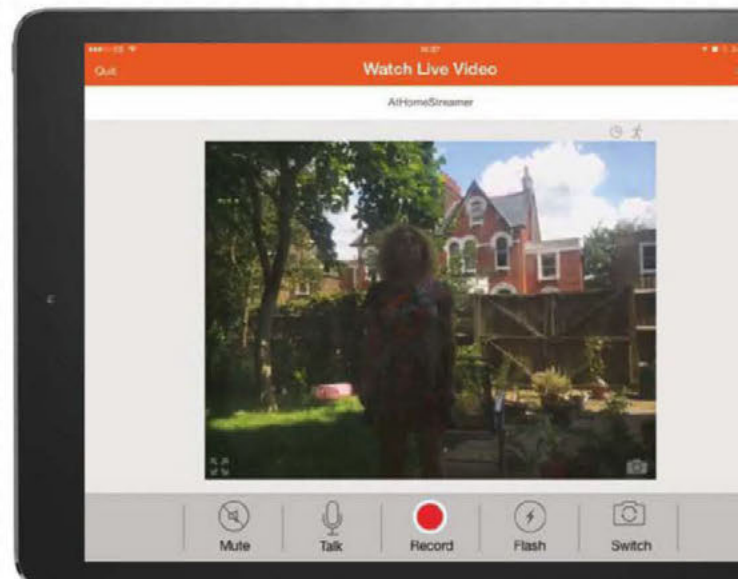
Indoor cameras start at around £40. Those for outdoor use start at around £60, but can run to several hundred pounds, so it's important to decide the features you need. If image quality is important, you'll want a camera with a high-definition sensor. To see what's happening when it's dark, the distance its infrared lights project is key.

Other features you should look for in an outdoor camera include the degree to which it is weather-proof – particularly if it will go on an unsheltered wall. Also check which Wi-Fi standards it supports, its frame rate, whether it can pan and tilt, and whether it supports WPA2 encryption.

When deciding where you want to place your IP camera, as well as making sure it's in range of your router, you'll need to plan where the power cable will go and whether it will reach the nearest plug socket.

Many IP cameras have an app which allows you to view their video feed on your iPhone or iPad.

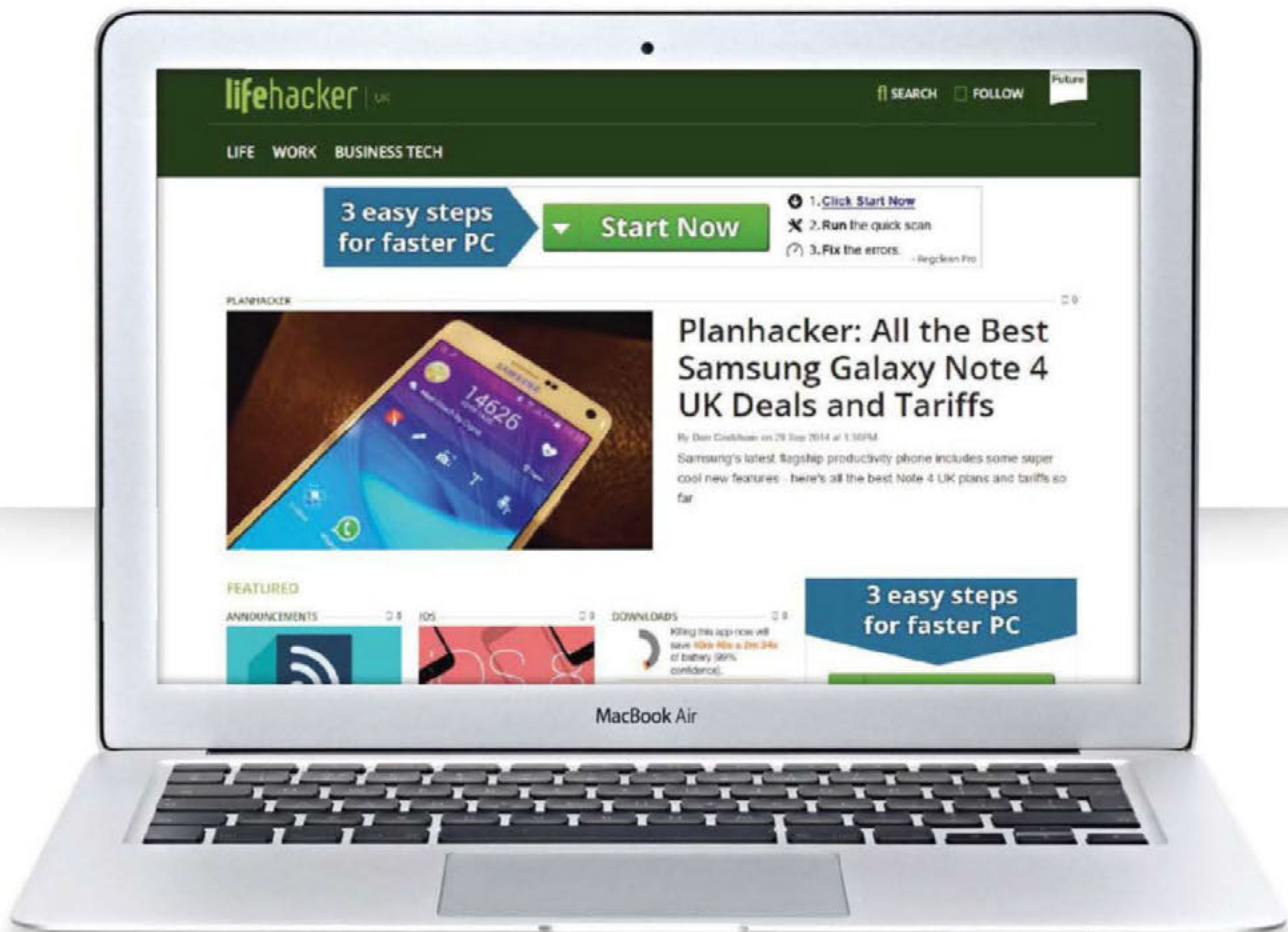
Even some indoor cameras, such as the Foscam FI8918W, are equipped with a night vision mode.





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# Mobile internet access

The internet isn't just for home or the office anymore. It's now essential to most of us wherever we go

**W**i-Fi isn't the only wireless technology that allows you to access the internet.

Since the advent of 3G a decade ago, mobile networks have been able to provide reasonably fast data connections, and 4G provides significantly improved bandwidth, making it a viable alternative to a fixed broadband line.

The bad news is that while 4G started rolling out in the UK towards the end of 2013, and all providers offer it as at least an option, coverage is far from universal. If you can get 4G, most providers charge a premium to use it, Three being the exception.

You can connect to a 4G network from a recent iPhone or cellular

iPad, once you have an appropriate data plan. If you have an iPhone 4S or earlier, you're stuck with 3G.

The situation is a little more complicated with the iPhone 5. It was the first iPhone with 4G

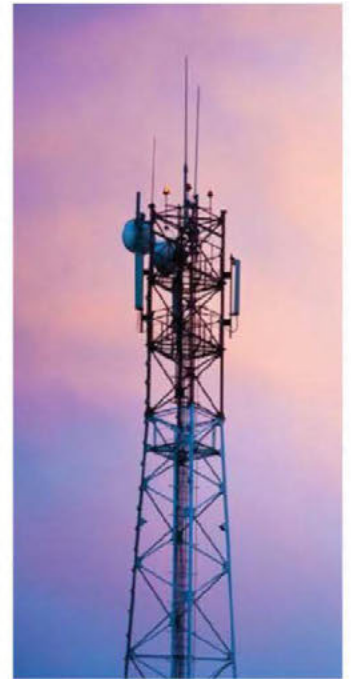
the UK. Here, the government repurposed spectrum freed up by switching off analogue television transmitters after the switch to digital. Those frequencies aren't supported by the iPhone 5, though they work with later models.

The iPhone 5 does work on EE's 4G network, though because EE, in addition to bidding in the auction for old TV frequencies, used spare capacity on its own 2G network to launch the UK's first 4G service. That frequency is supported by the iPhone 5, and by later iPhones.

If you have an iPhone, you can use its mobile data connection to surf the web from a Wi-Fi iPad, an iPod touch, or your Mac, as long as your network and data plan allow it.

**The bad news is that while 4G is available in the UK, coverage is far from universal**

support, or at least the most common variant, LTE. While it supported the frequencies used for 4G in the US and some other places, it didn't support those planned for use by 4G networks in



4G is available on all of the UK's major mobile networks, but it typically comes with a premium price and monthly data limits.

## When will I get 4G?

How long is a piece of string? The answer to when you'll be able to access 4G depends on where you live and which network you use. The simplest way to find out is to go to your network provider's website and use its coverage checker. Type in your postcode and the checker will tell you whether 4G is available now and, if not, when you can expect it to become available. However, even that won't give you the full story.

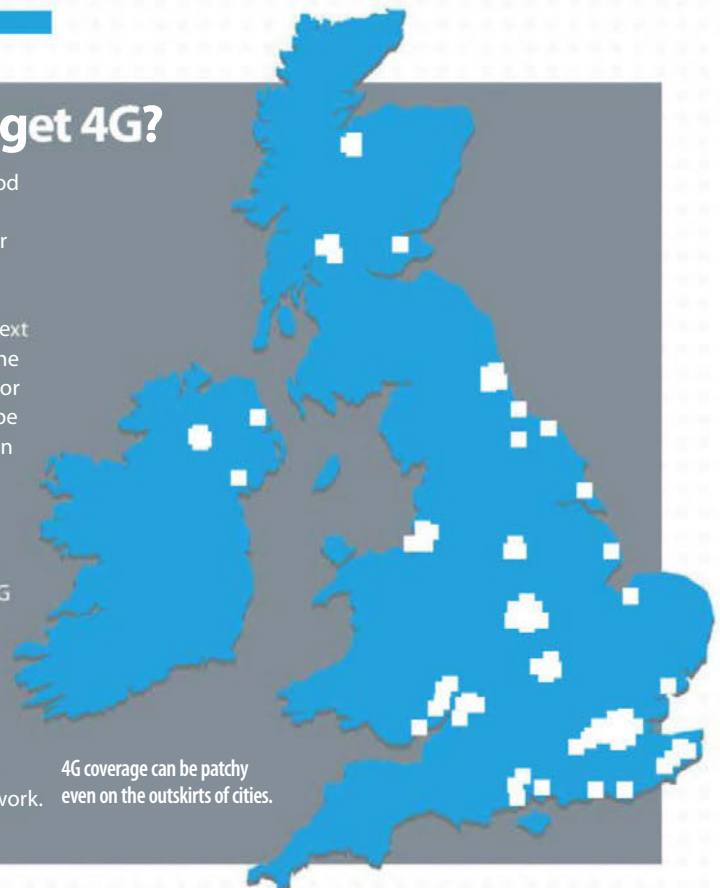
Every network has pockets within coverage areas where signals are weak or, sometimes, non-existent. So while, for example, 4G may be available from your provider in Exeter, if you move beyond the centre of the city, you might find the signal disappears. Within Greater London, there's a large area around the Surrey/Kent border inside the

M25 where no provider has good 4G network coverage.

Most networks say they cover around 75% of the population currently, and that they aim to increase that to 90% over the next five years. As a general guide, the closer you live to a major town or city, the more likely you are to be able to access 4G right now or in the near future. Take a look at our map for a better guide.

The other factor you'll need to consider is your smartphone as some models have limited 4G compatibility in the UK. If you have an iPhone 5c, 5s, 6, or 6 Plus, it will work with 4G services offered by all of the UK's mobile network providers. However, the iPhone 5 will only work on EE's 4G network.

4G coverage can be patchy even on the outskirts of cities.





## Take the internet with you

**Y**ou can access the internet very simply while on the move very simply, using a 3G or 4G network, provided your iPhone is running iOS 8 your Mac is running Yosemite. See p40 to find out how to set up Personal Hotspot.

If you have an older iPhone, or a Mac that's not running Yosemite, you can still use the older version of Personal Hotspot, though it's not as

quick to connect to it from your Mac or iPad. In either case, you'll need to check with your provider that your

If you only need to get a Mac online, a USB dongle will take up very little space in your bag.

contract includes support for tethering – the generic name for using a mobile's data connection on another device.

If your network contract doesn't support tethering, you don't have an iPhone, or you don't want to drain its battery using it as a hotspot, there is another option: a mobile hotspot. This allows multiple devices to share a connection to a 3G or 4G network. They can be bought on contract from mobile operators, at prices which vary according to the monthly data usage. You can also buy an unlocked SIM-free mobile hotspot from a third party, which can be used with any SIM, in the same way as an unlocked mobile phone. Third

party hotspots start at around £40 and are made by the likes of D-Link, Huawei and



Mobile hotspots are an alternative way to get several devices online while you're on the move, and to do so without draining your iPhone's battery.

TP-Link. Features to look out for include the number of devices which can be simultaneously connected, support for 3G and 4G, and whether or not you can use the hotspot's battery to charge your iPhone or iPad.

A less flexible, though physically smaller, option is a

USB dongle. Like Wi-Fi hotspots, these are usually provided free of charge by network operators in return for signing up to a monthly contract. You plug the dongle, which is about the same size as a USB flash drive, into your MacBook to get online via the operator's 3G or 4G network.

### AT A GLANCE | MOBILE HOTSPOTS FROM UK PROVIDERS

Provider	Product name	Contract length	Data cap	Data lasts	Upfront price	Monthly cost
EE	Kite	one month	1GB	30 days	£59.99	£10
			3GB			£15
		24 months	1GB	30 days	£29.99	£10
			3GB		Free	£15
Three	Huawei E5372 4G Mobile Wi-Fi	one month	5GB	one month	£39.99	£15.99
			10GB			£16.02
		24 months	1GB	one month	Free	£10.87
			5GB			£15.99
			15GB			£20.10
Vodafone	R215 4G	30 days or 12 months	1GB	one month	30 day plan: £49 12-month, 1GB cap: £19 12-month, other caps: Free	£10
			3GB			£16
			5GB			£21
			8GB			£26
O2	Netgear Hotspot	24 months	500MB	one month	£12	£10
			1GB			£12
			3GB			£17
			5GB			£22
			8GB			£27



# How to set up Personal Hotspot

Apple's Personal Hotspot allows you to use your iPhone as a modem. Here's how to get it going

**A**lthough you've been able to use an iPhone as a mobile hotspot for a Mac or iPad for a while, iOS 8 together with OS X Yosemite make it much easier. Personal Hotspot now forms part of Continuity, the suite of features which allow you to share data between Mac and iOS devices easily.

There are three ways to connect a device to a Personal Hotspot. Wi-Fi allows you to connect any Wi-Fi-

capable device, regardless of its platform or operating system. Connection over Bluetooth allows you to share a data connection with a Mac or iOS device. Using a USB cable allows you to connect from a Mac or PC.

To share a connection using Personal Hotspot over Wi-Fi, as well as Bluetooth and USB, you'll need an iPhone 4 or later, iPad 3 Wi-Fi + Cellular or later, or iPad mini Wi-Fi + Cellular or later. An iPhone 3GS can

share its data connection over USB or Bluetooth. You'll also need to check that tethering is supported by your data plan. The number of devices you can connect to a Personal Hotspot is limited by your data plan, and possibly the device used as the hotspot.

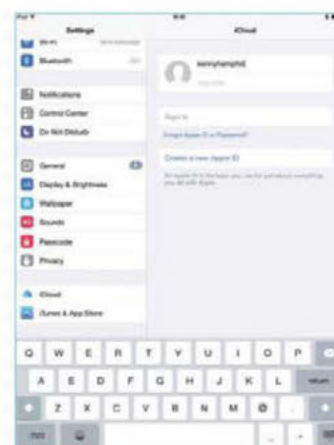
If you sign into iCloud on the Apple devices you want to connect, you won't need to enter the hotspot's Wi-Fi password.



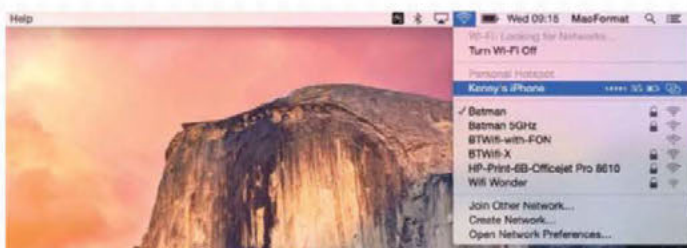
## HOW TO | SET UP AND CONNECT TO A PERSONAL HOTSPOT



**1 Turn it on**  
On the device you want to use as the hotspot (probably an iPhone, though iPads with a mobile data connection can also be hotspots), go to the Settings app and tap Cellular. Tap Personal Hotspot and on the next screen push the switch next to Personal Hotspot to the right to turn it on. Personal Hotspot now appears in the main Settings menu.



**2 Sign in to iCloud**  
If you're connecting a Mac, go to System Preferences then iCloud and make sure you're signed in. If you're connecting an iPad or iPod touch, go to the Settings app and then iCloud to check. This allows the hotspot to use iCloud for authorisation when you connect over Wi-Fi, and saves you tapping in a password.



**3 Connect from a Mac**  
To connect to the hotspot from your Mac using Wi-Fi, click the Wi-Fi icon in the menu bar to reveal available networks. You'll see a section labelled Personal Hotspot and under it, your iPhone's name. Click it to connect. The Wi-Fi item will change to the Personal Hotspot icon.

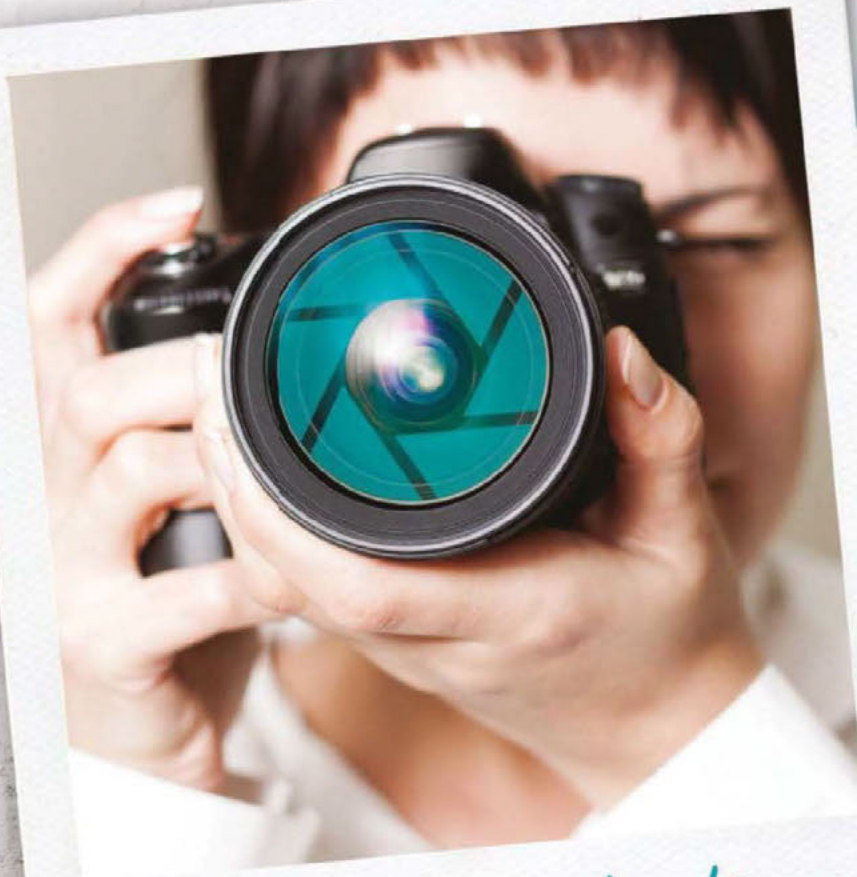


**4 Connect from an iPad**  
To connect from an iOS device, go to Settings > Wi-Fi. Under Personal Hotspots, tap the name of your iPhone. When you're connected, your iPhone will display a blue bar across the top of the screen with a number indicating how many devices are connected to its hotspot. The connection to those devices will persist even if the iPhone goes to sleep.



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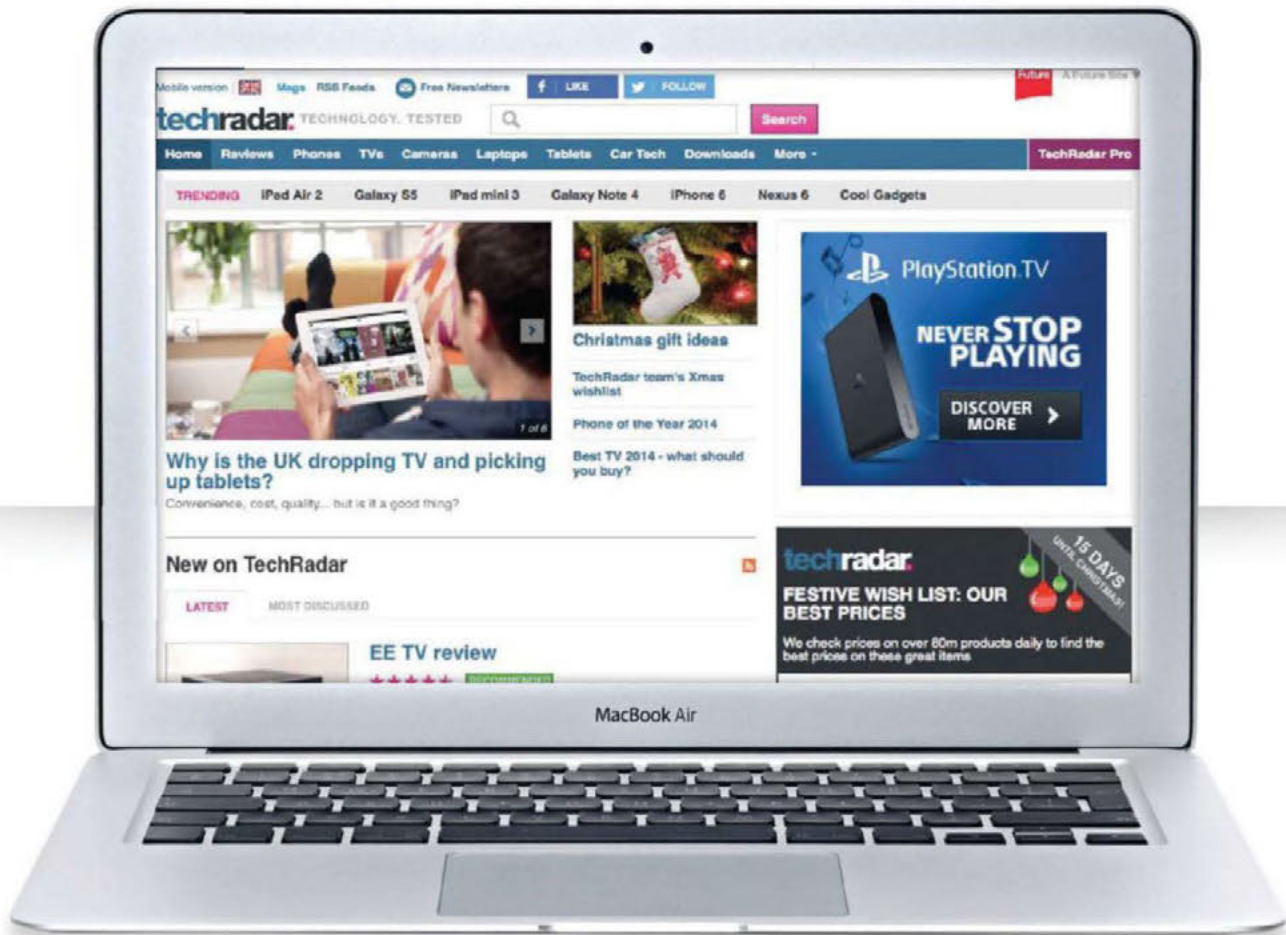
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# IMPROVE



*“Creating quick video tutorials, to share knowledge with others, can be immensely rewarding”*  
**Vlog with ScreenFlow 5 p48**



## THIS ISSUE'S EASY-TO-FOLLOW GUIDES



### Share your media libraries

Access your film, TV and music from connected devices with Media Browser **p44**



### Speed up with Liquid

Rapidly search online, find reference material and perform conversions **p46**



### Create your own tutorials

Use the screen-capture software ScreenFlow 5 to record video tutorials **p48**



### Delete duplicate photos

Free up space on your Mac's hard drive by consolidating your images **p50**



### Master multicamera editing

Learn how to switch between angles in the timeline using Final Cut **p52**



### Discover the Today view

Notification Center now includes a Today view with add-on widgets **p54**



### Take control of iTunes 12

Take iTunes further: let it mix your music and share your media **p56**



### Manage conversations

Master the features of iOS 8's Messages app and learn about its advanced features **p58**



### Mailbox

Use the free Mailbox app on your iOS device to take back control of your inbox **p61**



# Share your media libraries

Access your film, TV and music from connected devices with Media Browser

## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

25 minutes

## YOU'LL NEED

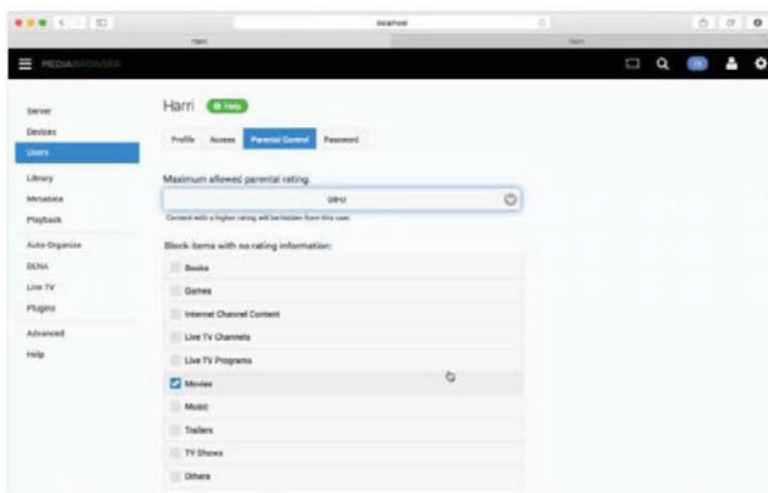
OS X 10.6.3 or later,  
Media Browser Server  
for Mac



One of the best ways to share your media – films, TV shows, photos and music – is by setting up a dedicated media server, which can be accessed by other devices both inside and outside your home.

The obvious solution is iTunes, but it restricts you to using Apple-friendly devices. Another option is Plex, but its best features are hidden behind a paid subscription. But there's a third option: Media Browser, now available for Mac.

Media Browser is similar to Plex: it lets you set up separate libraries for different media files, including TV, films, music and more. You can access these through different connected devices: your Mac via your web browser or the Kodi media centre program (see tip box, opposite), a paid mobile app (including iPad and iPhone), or even smart living room devices such as Roku or a Samsung TV. Media Browser also supports the DLNA standard, widening access to more devices, including the WDTV box or



Configure your media server – including individual user profiles – through your web browser.

even a free iOS media player app like Media Link Player Lite. While there's no direct support for Apple TV devices, the Media Browser iOS app supports AirPlay mirroring, so all is not lost.

Before setting up your libraries though, make sure your media files are

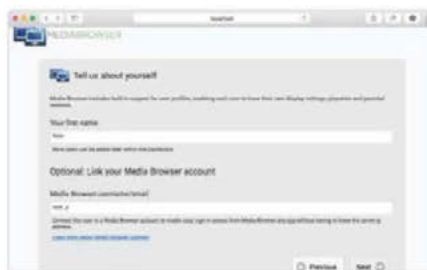
named in such a way as to make them easy to identify, which allows Media Browser to import artwork and extra information such as an episode title or a film synopsis from the internet. Visit [bit.ly/15qKvrv](http://bit.ly/15qKvrv) for our exhaustive media naming guide. **Nick Peers**

## HOW TO | GET STARTED WITH MEDIA BROWSER



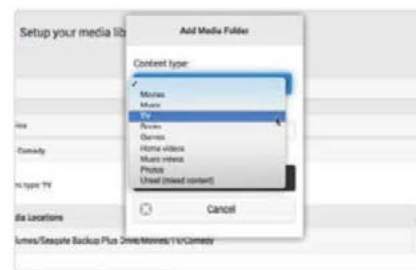
### 1 Install and launch

Download and launch the PKG installed from [mediabrowser.tv/download](http://mediabrowser.tv/download) (select OS X and click Download Release). If blocked, go to System Preferences > Security & Privacy > General and click Open Anyway. Follow prompts to install Media Browser then launch the MediaBrowser.Server.Mac app. Click the Media Browser menu bar and choose Configure Media Browser.



### 2 Configure server

Click Allow when prompted, to allow incoming connections and Notification Center alerts. Your web browser will open – configure your server following the simple wizard. After setting your display language, enter a username and, if applicable, set up Media Browser Connect. This allows you to access your media from outside your own Wi-Fi network, such as a friend's home.



### 3 Set up libraries

Click 'Add media folder' to add your first library. Choose the content type (such as films or TV), give it a name (such as TV – Comedy) and click OK. Click '+' next to Media Locations to add the first folder – select it, then click OK. Repeat for any additional folders. Follow the same process to add more libraries. Once complete, click Next to finish by configuring metadata settings.



**VISUAL GUIDE** | MAKE THE MOST OF YOUR MEDIA**Access your content**

**1** Browse your media by type, using this slide-out menu – click Home to return to the main Media Browser home page where you can jump to specific parts of your library quickly. Media Browser also provides access to additional online content via plug-ins – examples include ITV Player and Vimeo. Add these via the configuration menu (select Plugins > Catalog) – they'll be available after you restart the server from the Channels menu.

**Set playback device**

**2** Click this button to choose where to play media – by default My Browser is chosen, which means it'll play inside your Mac's browser window. But if you're running Kodi (or want to direct output to another Mac on your network) select that instead. Playback can be controlled from either your Mac's web browser or inside Kodi itself.

**User profiles**

**3** Media Browser supports multiple user profiles – this allows different people in your household to log on to the server and access content using their own user preferences. It also allows you to set up access for younger members of your family – you can choose which libraries your children have access to, plus automatically filter out content based on parental ratings and even restrict access to the server to set times of the day or week.

**Browse media**

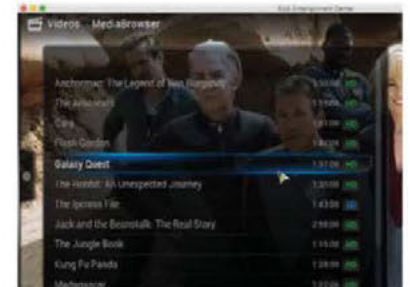
**4** If you name your media files correctly, Media Browser can download additional information and artwork, allowing you to browse your library easily and read extra snippets of info. These settings are controlled from the Metadata section of the server configuration screen – use the Services tab to select which online providers to use for media information and artwork, and select the Subtitles tab if you want them.

**Metadata Manager**

**5** This powerful tool lets you drill down into your library and make changes to the metadata downloaded by Media Browser – you can edit all kinds of information here, and even set your own parental ratings. The Metadata Manager is also where you can correct mismatches – browse to the incorrectly identified series or film in question, then select the Identify tab. Enter your search terms then choose the correct entry from the list provided in order to update your library with the correct information.

**Reports**

**6** The Reports button merely gives you an at-a-glance view of your media collection, with key stats such as length, video format and resolution. It also dovetails in with the Metadata Manager – you just click an item to jump to its entry in the Manager.

**PLAY MEDIA ON YOUR MAC**

You can watch your media on another Mac through its web browser – type [192.168.x.y:8096/mediabrowser/web/login.html](http://192.168.x.y:8096/mediabrowser/web/login.html) (replacing 192.168.x.y with your server's IP address), but a better method is to use Kodi (kodi.tv) with the Media Browser plug-in. Get it through the official Kodi repository (under Video Add-ons). Once enabled, click Configure, point the plug-in to your server's IP address and enter your username and password.



# Speed up with Liquid

Rapidly search online, find reference material and perform conversions

## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

15 minutes

## YOU'LL NEED

OS X 10.7 or later,  
Liquid 6.1 or Liquid  
Legacy 6.1, internet  
connection



Liquid is an app that's all about workflow efficiency. It's designed to rapidly get you to important information based around a particular text string, be it search engine results (web pages, images or maps), Amazon listings, YouTube videos, local information found via Spotlight, online reference (Wikipedia, IMDB, Wolfram Alpha and so on) and conversions. It also enables you to perform complex copy actions on selected text (such as extracting sentences that include specific terms) and, in the paid version, translations between different languages.

As of OS X Yosemite, Spotlight can do some of these things ably, but it has its drawbacks. It's relatively slow and tries to make a best guess about what you want in the results list.

By contrast, Liquid puts you in control. Once you've loaded text, you type letters relating to specific services or options, which then get you the results you want – every time. Initially, the system feels alien, but before long



Liquid makes it easy to very rapidly find information based around a search term.

*You'll soon be blazing through menus in a manner that makes Spotlight seem slothful*

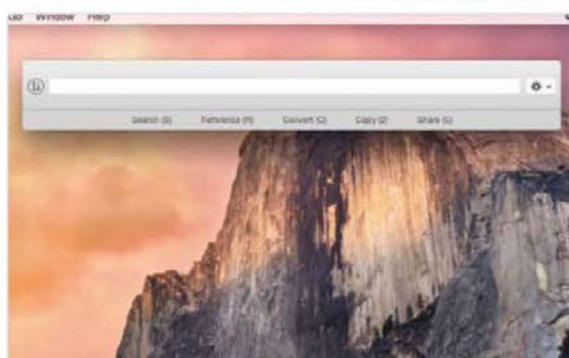
you'll be blazing through menus, in a manner that makes Spotlight appear comparatively slothful.

Liquid is available from the Mac App Store, for free – this is the version we use for the walkthrough opposite. A 'pro' version, with additional features, is £3.99 and we explore this more in two of the quick tips. **Craig Grannell**

## HOWTO | MASTER SEARCHES, CONVERSIONS AND EDITING

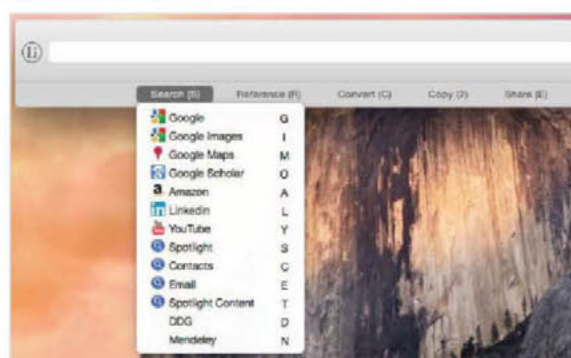
### QUICK CONVERT

The paid version of Liquid adds translation capabilities. Load text and press **[T]**. You then use relevant letters to select the language you're translating from and to. **[T]** can be used to work with your most recent selections.



### 1 Load some text

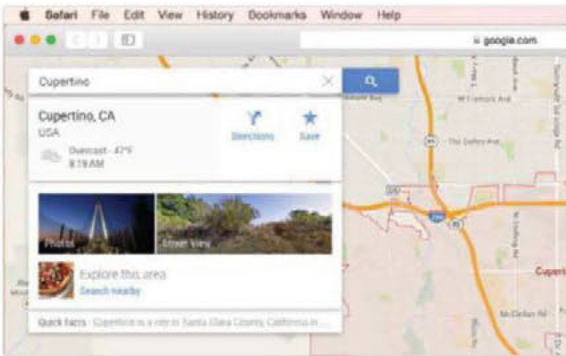
There are two ways to get text into Liquid. The first is to select text (one or multiple words) in an app and use **[⌘]+[⌘]+[2]**. Your text will then be sent to Liquid. Or, click on the Liquid icon in the OS X menu bar to bring up the Liquid window and type your term directly into its text field.



### 2 Access a menu

Underneath Liquid's text-entry field are the actions that can be performed on your text. Each is a button that can be clicked to open its corresponding menu. However, the bracketed letters enable you to open menus by using relevant keys. So press **[S]** and the Search menu will open.





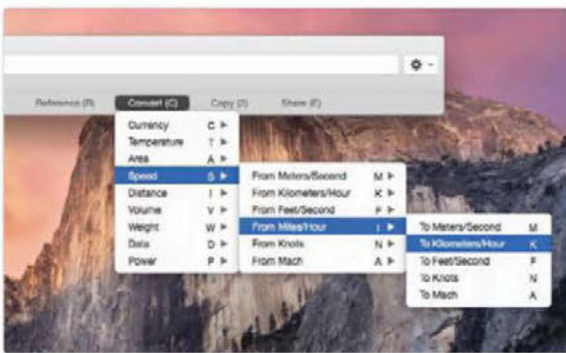
### 3 Perform searches

Let's try a search. Open a TextEdit document and type 'Cupertino'. Double-click in the text to select it, then press  $\text{⌘} + \text{⌘} + 2$ , then  $\text{S}$  (for search), then  $\text{M}$  (for Google Maps). You should see the Search menu open on  $\text{S}$ , and Safari launch on  $\text{M}$ , loading Google Maps, which display the city.



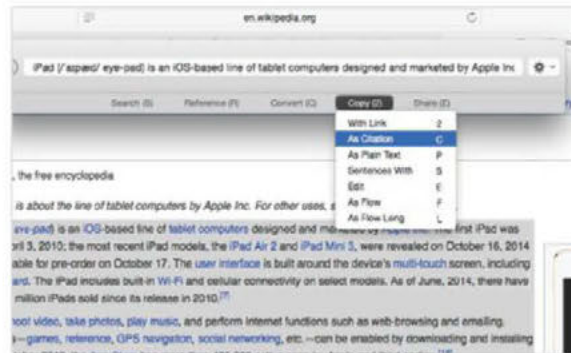
### 4 Access online reference

Return to your TextEdit doc ( $\text{⌘} + \text{⌘} + \text{⌘}$ ) and press  $\text{⌘} + \text{⌘} + 2$ , then  $\text{R}$  (for Reference) and  $\text{W}$  (for Wikipedia). This time, Safari will launch with Cupertino's Wiki page. The more searches you do in Liquid, the more it will imprint on your muscle memory, getting quicker to access info.



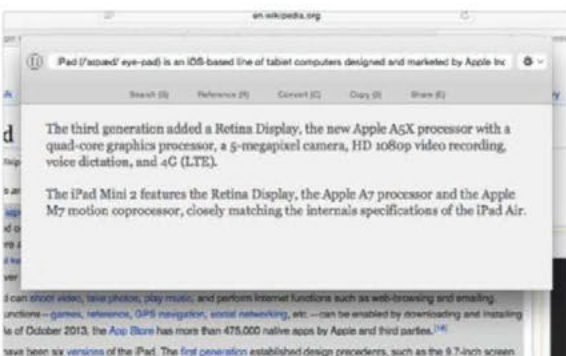
### 5 Perform a conversion

Load a number and press  $\text{C}$ . This opens the Convert menu with all kinds of categories. Press  $\text{S}$  for Speed and its sub-menu opens to define what you're converting from. Press  $\text{I}$  (From Miles/Hour) and  $\text{K}$  (To Kilometres/Hour). Liquid will display your figure, converted from Mph to Kph.



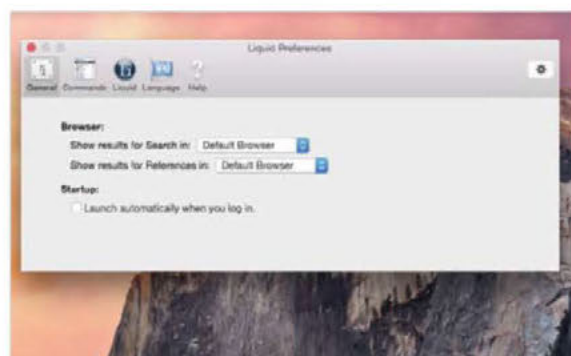
### 6 Make clever copies

In Wikipedia, visit the iPad entry (using Liquid) and select several paragraphs. Press  $\text{⌘} + \text{⌘} + 2$  to load them into Liquid, and  $\text{2}$  to open the Copy menu. Press  $\text{2}$  (With Link) then paste text into TextEdit. Do it again, but use  $\text{C}$  (As Citation) – Liquid adds the page title, site, URL and date.



### 7 Match specific terms

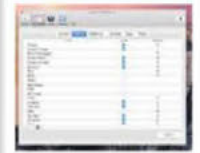
Repeat the step six actions, but from the Copy menu press  $\text{S}$  (Sentences With). You'll be asked for a term that Liquid will then match. Type 'Retina' and hit Return (or click Done). Liquid will display sentences from the text that include 'Retina'. Use  $\text{⌘} + \text{C}$  to copy it to the OS X clipboard.



### 8 Fine-tune settings

We've shown Liquid giving results in Safari, our default browser, but this can be changed. Open Liquid using the menu bar icon, click the cog icon and select General. Here you can define a browser to show search and reference results, and set Liquid to launch when you log in to your Mac.

## CUSTOM SEARCH



In the paid version, explore the Commands preferences. You can toggle menu options and define your own shortcuts. In Search and Reference add custom searches – hit '+' and the app provides instructions for doing so, including adding an icon.

## CUSTOM FIT

If you don't want to use  $\text{⌘} + \text{⌘} + 2$  to trigger Liquid, open Shortcuts within the Keyboard pane in System Preferences. Select Services from the sidebar and scroll down until you see Liquid. Just click the shortcut on the right and choose something new.



# Create your own tutorials

Use the screen-capture software ScreenFlow 5 to record video tutorials

## SKILL LEVEL

Could be tricky

## IT WILL TAKE

30 minutes

## YOU'LL NEED

A Mac with a FaceTime HD camera (or web cam), some images, ScreenFlow 5

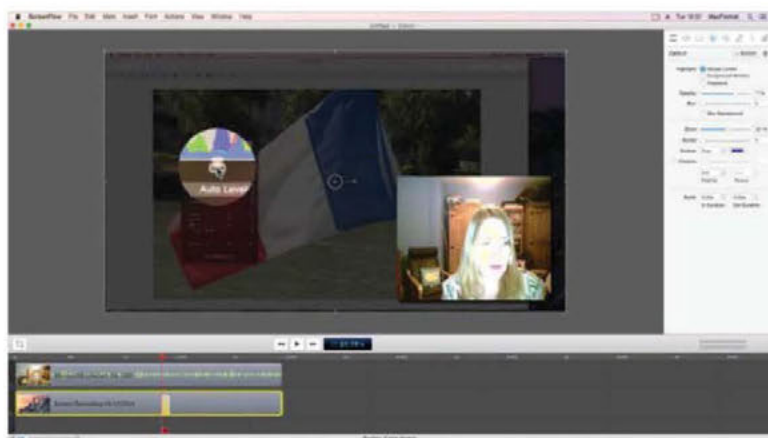


There's an old adage that goes, "Show, don't tell". And indeed sometimes you'll be trying to tell a person how to do something on a Mac, and it's easier to just show them how it works.

This is where screen recording software jumps in. Using the right app you can record exactly what is on your desktop, along with your own narration. This video can be uploaded to YouTube, or sent directly to somebody to show them what you're talking about.

The ability to create quick video demonstrations is a tremendous asset. Creating screencasts and vlogging (creating video blogs) are also popular pastimes, and it can be immensely rewarding to share the things you learn with other users. It's possible to record your Mac screen using QuickTime Player, but if you get into screen recording then consider a professional program such as ScreenFlow 5.

This app enables you to record both your Mac's desktop and an iPhone or



**ScreenFlow 5 can help create screen recordings with highlighted callouts, keyboard presses and annotations.**

iPad screen at the same time, along with your own face, via the FaceTime HD camera. Once you have recorded the video you can edit it directly inside ScreenFlow 5, adding callouts, annotations and text to explain in depth what is happening on the screen.

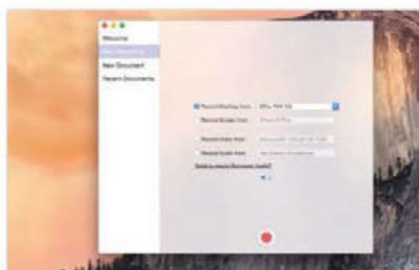
The great thing about ScreenFlow 5 is that all the items are recorded

separately, and you can edit them independently to focus on exactly the features you want to demonstrate.

In this tutorial, we're going to take a look at recording a demonstration of image editing in the Preview app, and use ScreenFlow 5 to edit and narrate our video before sharing it on YouTube.

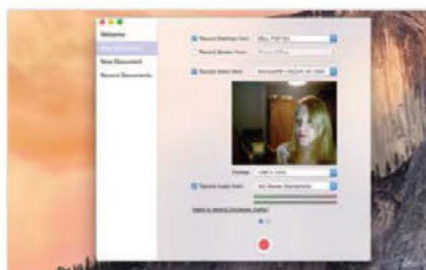
**Lou Hattersley**

## TOP 3 FEATURES | RECORDING YOUR SCREEN WITH SCREENFLOW 5



### 1 Capture the screen

When you first open ScreenFlow, the Welcome screen will appear. Click New Recording in the sidebar to the left. Ensure a tick is placed in the Record Desktop from option: if you have more than one screen, ensure that the correct one is listed here. If you want to also record an iPhone or iPad screen, click Record Screen From and choose the iOS device.



### 2 Record your face

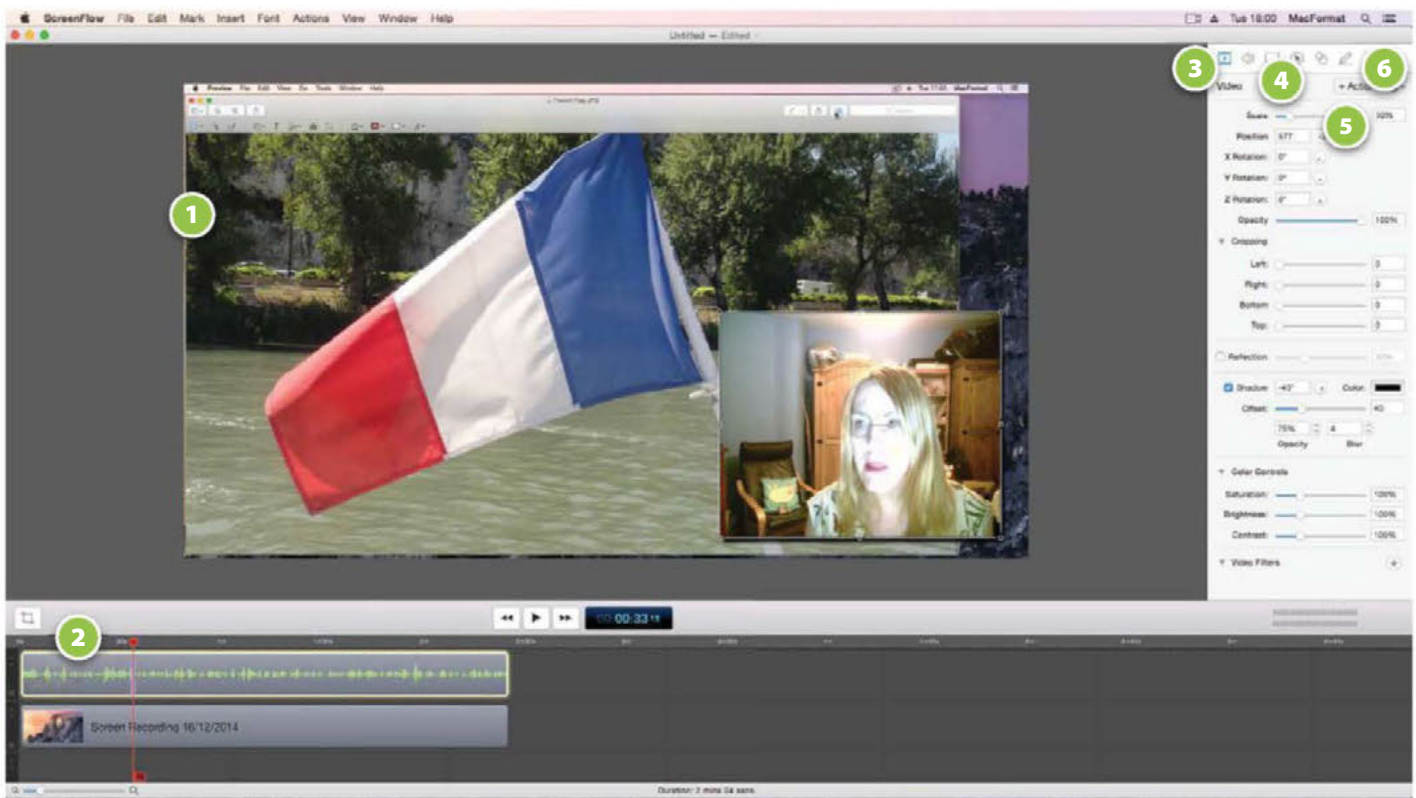
If you want to include a personal video recording alongside the screen capture, then tick the Record Video From option and choose FaceTime HD Camera (or the name of a webcam attached to your Mac). Now click Record Audio From and choose Built In Microphone (or your preferred microphone if you have an external one attached).



### 3 Start the recording

Click the red Record icon to start recording. Now use Mac OS X as normal, while talking through the feature you are trying to demonstrate. You won't actually see a preview of your face as it is recorded, but it will be included in the final video. Press **⌘+⌘+2** when you have finished your talk-through, to stop recording and move to the edit screen.



**VISUAL GUIDE** | EDITING A VIDEO WITH SCREENFLOW 5**Preview window**

**1** The main window displays the screen you just captured, along with a smaller window displaying the recording of your face. These two video recordings are captured independently, and you can move and resize the preview window using the drag handles (or adjust the main window). Select items on the Timeline (below) to choose which items to move and resize in the Preview window. You can also add effects and adjustments, from The Inspector, to each video recording independently.

**The Timeline**

**2** At the bottom of the screen is the Timeline with two horizontal bars. The top bar relates to the recording of your face, while the bottom is the screen recording. You can move through the video by dragging the red scrub bar left and right. There is a zoom slider in the bottom left that can be used to zoom in to the Timeline for precision editing. You can re-arrange videos on the Timeline to adjust the layer order in the Preview window.

**The Inspector**

**3** The Inspector on the right of the screen displays a range of options for adjusting the video. The Inspector displays items related to the video bar that is highlighted in the Timeline. There are eight tabs at the top of the Inspector: Video, Audio, Screen Recording, Callout, Touch Callout, Annotations, Text and Media Library. Use the Add Action button to add an effect to just a short part of a clip.

**Screen Recording**

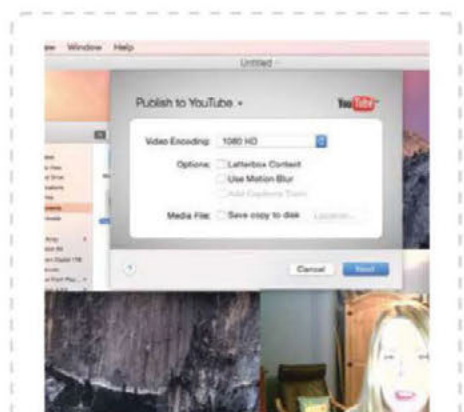
**4** The Screen Recording tab in the Inspector is used to enhance the display of your screen capture. Meanwhile the Pointer Zoom slider can be used to increase the size of your mouse pointer and the Click Effect option can be used to highlight mouse clicks. The Show Keystrokes option is useful as it displays key presses and combinations as a screen overlay. You can also use the Height and Position fields to adjust the text overlay, and the Font icon offers you some more detailed options for displaying keystrokes.

**Callouts**

**5** There are two callout options, which can be really useful: Callouts and Touch Callouts (which can be used to demonstrate finger taps). Callouts can be used to highlight sections of the window so that the people you are trying to instruct focus on those particular areas of the screen. Locate the area you want to highlight and tap '+Action'. This then darkens the rest of the screen, displaying just a small circular highlight.

**Annotations and Text**

**6** There are several annotations available, including arrows, squares and circles. Select the item in the Inspector and click the '+' icon (you will then notice a new annotation bar appear on the Timeline). Now click and drag on the main screen to draw that annotation onto the display. The Text tab works in the same way, enabling you to add descriptive text.

**PUBLISH TO YOUTUBE**

ScreenFlow 5 has integrated support for YouTube. Choose File > Publish To > YouTube. Click Sign In and enter your Gmail Name and Password. Click Sign In again and Accept. Now choose a Category and fill out the Title and Description fields and add tags (words that sum up the tutorial). Choose Public, Unlisted and Private and click Publish. Visit [youtube.com](http://youtube.com) and sign in with the same details. Now click on My Channel to view the video you just uploaded.



# Delete duplicate photos

Free up space on your Mac's hard drive by consolidating your images

## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

45 minutes

## YOU'LL NEED

OS X 10.6.8 or later,  
Photos Duplicate  
Cleaner or Duplicate  
Cleaner for iPhoto



Just how much space on your hard drives is taken up by duplicated photos?

Thanks to two free programs – Duplicate Photos Cleaner and Duplicate Cleaner for iPhoto – you can easily go through a selected drive, folder or iPhoto library and weed out unnecessary copies, potentially freeing up many gigabytes of drive space.

Both apps are available free through the App Store and – once

*You can easily weed out copies, freeing up many gigabytes of hard drive space*

installed – work in a similar way.

The only real difference is how you select what to scan – the step-by-step guide opposite reveals what to do with Duplicate Photos Cleaner, while Duplicate Cleaner for iPhoto will first ask you to launch iPhoto, then select your chosen iPhoto library before going through it looking for duplicates.

Note that Duplicate Photos Cleaner can't compare the contents of multiple drives, so you can't inadvertently delete any photos backed up to another hard disk. Also beware that cleaning photos using either program means deleting them completely – they aren't simply moved to the trash. So proceed with caution and if you haven't backed up your photos, do so after cleaning up to ensure you have a fail-safe copy. **Nick Peers**

## QUICK LOOK

### Duplicate Cleaner

#### Match edited photos

**1** By default Duplicate Cleaner for iPhoto won't match photos if one has been modified. To undo this select Duplicate Cleaner for iPhoto > Preferences and tick this box.

#### How photos are matched

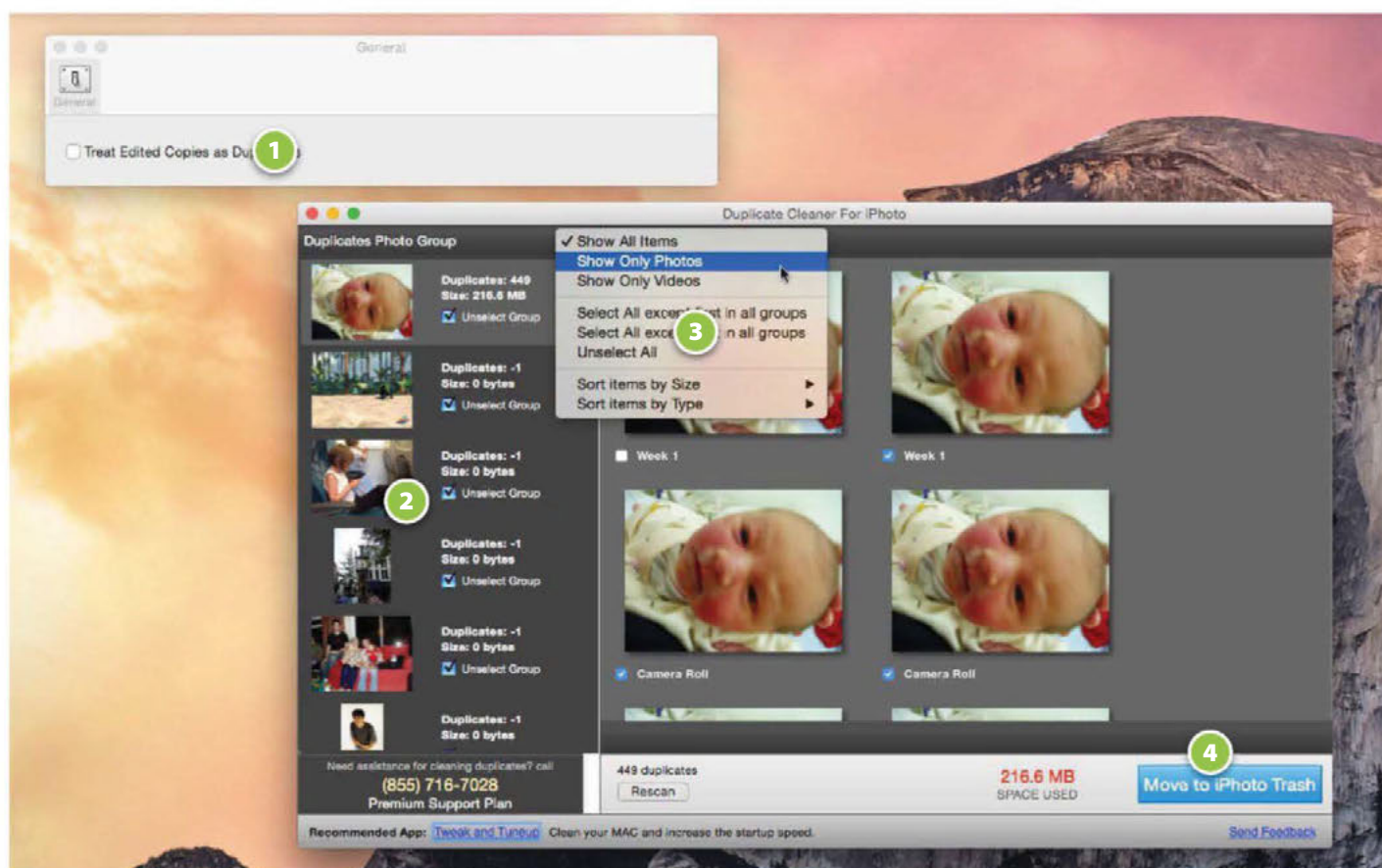
**2** Both apps match images via the file signature. So identical photos with different names will show up too.

#### Filter results

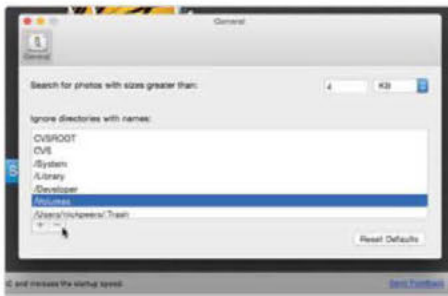
**3** You can use the app to search only for duplicate photos or videos, or search for all media by clicking the menu button. Other options allow you to filter or sort results.

#### Empty trash

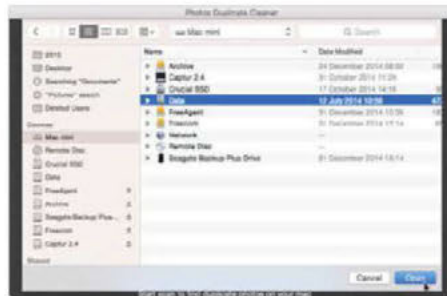
**4** Duplicate Cleaner for iPhoto doesn't delete files, but places them in the iPhoto trash – in iPhoto choose Empty Trash to remove them for good.



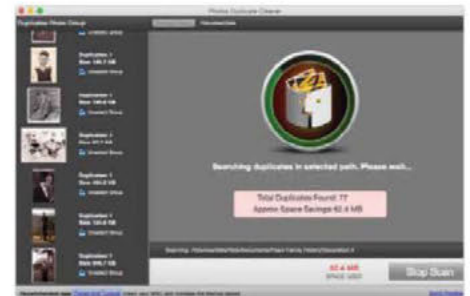


**HOW TO** | SCAN AND REMOVE DUPLICATE PHOTOS**1 Remove restrictions**

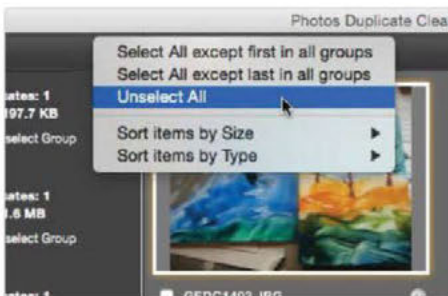
By default the program only allows you to search your main hard drive – to allow searches of any drive, open the Photos Duplicate Cleaner menu and select Preferences. Select 'Volumes' in the 'Ignore directories with names:' list and click the '-' button to remove it.

**2 Select folder or drive**

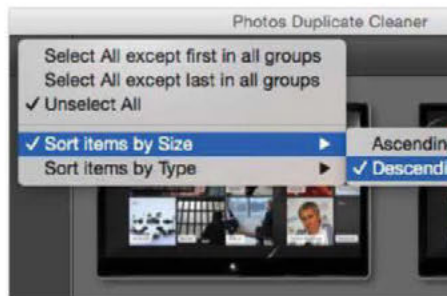
Click the 'Select Folder and Scan' button. Photos Duplicate Cleaner allows you to scan individual folders or drives only – you can't select Computer to scan an entire drive or compare folders. Select the folder or drive and click Open to start scanning.

**3 Wait for scan**

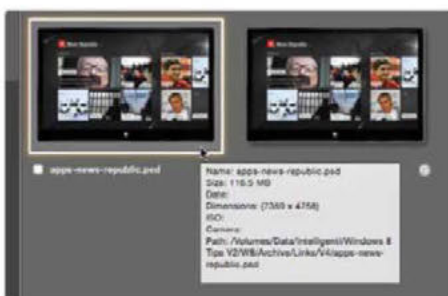
Your drive or folder will be scanned for duplicates. This can take time, depending on folder size. If any duplicates are found they'll be displayed in the left-hand pane – a running total of duplicates and potential space savings will be displayed in the right-hand pane.

**4 Play it safe**

Once complete, a summary of duplicates found and potential savings appears – click OK. A large number of files could accidentally be deleted if you click Clean Duplicates. Exercise caution by clicking the button to the left of Change Folder and choosing Unselect All.

**5 Sort results**

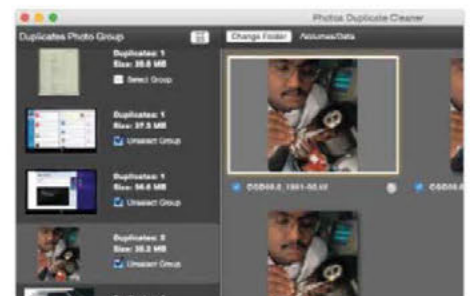
If you want to quickly reclaim some disk space, but don't have time to go through the whole list, concentrate on the largest items first. To do this, click the menu button again, but this time choose Sort items by Size > Descending to display the biggest files at the top.

**6 Compare duplicates**

The first entry in the Duplicates Photo Group list is displayed by default. Click on one of the duplicates displayed and leave the cursor hanging over it – after a pause a tooltip will pop up with information about it, including its location, helping you identify which to keep.

**7 Select files to remove**

If this doesn't give you enough info, click the magnifying glass button beneath a duplicate to open its folder in Finder, to help you determine which version, or versions, you'd like to keep. Then tick the box next to the name of the file(s) you wish to delete.

**8 Clean, and clean again**

Move on to the next item in the list – if in doubt, leave items unticked as you can remove them later. To clean selected items as you go, click Clean Duplicates followed by 'Yes', at any time, to permanently delete the files you've ticked – then continue reviewing other items.



# Master multicamera editing

Learn how to switch between angles in the timeline using Final Cut

## SKILL LEVEL

Taking things further

## IT WILL TAKE

20 minutes

## YOU'LL NEED

Final Cut Pro X 10.1,  
two or more  
clips of the same  
thing recorded  
simultaneously



Shooting with multiple cameras can bring life to an otherwise static scene. Cameras may record from a fixed position or be mounted on a dolly to get smoother movement. Many modern cameras, including the iPhone, feature image stabilisation so they can be used in a handheld fashion while masking the fact that the camera's movement wasn't as smooth as it appears.

Having multiple cameras on a set can complicate the shots you're able to take, because you have to consider whether one camera operator's shot will bring them into the field of view of another. You won't want that in most cases, although for our YouTube project (pictured) we made an explicit decision to allow it so that the operator could wander into view for a closer look at the object being discussed.

Assembling a cut from multiple recordings by hand is of course possible, but creating a multicam clip from them enables you to work more efficiently. To show you how it works, we'll look at Final Cut's method of automatically syncing clips – although there are circumstances when this doesn't work well.



Shooting with multiple cameras takes more planning, but ultimately gives you more editing options.

*Shooting with multiple cameras can bring life to an otherwise largely static scene*

Small problems can be fixed by hand, and Apple advises at [bit.ly/1cqjOm8](http://bit.ly/1cqjOm8) on how to use custom settings when the automatic method doesn't work out well.

For now, we'll assume that you have some clips which were recorded simultaneously, with similar enough audio for Final Cut to get them in sync.

**Alan Stonebridge**

## There's more in our app!

You'll find a full step-by-step video of this tutorial in the MacFormat iPad app

## HOW TO | WORK WITH MULTICAM CLIPS

## TRIM TOOL

The Trim tool can be used on multicam clips just like regular ones. However, be careful that you don't slide a clip so much that action, such as lip movement or a physical event, becomes obviously out of sync with audio.



### 1 Make a multicam clip

Select the clips for a scene's various camera angles and choose **File > New > Multicam Clip...** They needn't be the same duration; Final Cut will attempt to align them by comparing their audio waveforms. Name your multicam clip and keep 'Use audio for synchronisation' ticked, then click OK.



### 2 The Angle Viewer

Add the new clip to a project and select it. The Angle Viewer shows a grid of the detected angles on the left side of the Viewer. If you don't see the Angle Viewer, choose **Window > Viewer Display > Show Angles**. Click Settings at the top-right to change how many angles are shown together.





### 3 Angle order

Double-click the multicam clip in the browser to show its contents in the Angle Editor and how Final Cut has aligned them. Drag the grip at the top right of an angle's track to change the angle's order. Click an angle's name at the left of its track to give it a more meaningful name.



### 4 Active audio

Video and audio icons are displayed at the left of each angle's track. Turn on the audio for multiple angles to hear them together and reveal where clips may be out of sync. Fix this by dragging with the Select tool or by nudging the clips with **[ ]** and **[ ]** just like in the timeline.

### ANGLE EDITOR



Effects can be applied to an angle in a project's timeline, or to all of an angle's clips in the Angle Editor. Beware that effects added the latter way can't be manipulated from a project's timeline, only in the Angle Editor.



### 5 A bit of set-up

Take note of the three icons at the top-left of the Angle Viewer. The one that is selected determines whether switching angle affects the video component, audio, or both. The middle one only affects video, and we've selected it so that we get consistent sound from a single microphone.



### 6 Switch angle

Hold **[ctrl]**, click the multicam clip and choose an audio source under Active Audio Angle. Move the playhead to the clip's start and start playing. Click an angle in the viewer or press the corresponding number on your keyboard to create an edit point at the playhead that switches to that angle.



### 7 Experiment

The fragments of the multicam clip remain linked to it, and decisions can be changed. To remove an angle switch, click its edit point and press **[⌘]**. To try a different angle, hold **[⌘]** and click one in the viewer, or hold **[ctrl]**, click a fragment and make a choice under Active Video Angle.



### 8 Refine breaks

Angle switches added as you watch the material may be a fraction of a second off where you intended by the time you've clicked. Using the Select tool, move the pointer over an edit point and drag it left or right. Material is trimmed from one side and added to the other.

### JARGON BUSTER

#### Monitoring angle

The monitoring angle is the one played on the right side of the Viewer when working with a multicam clip in the timeline. Set it by clicking the video monitor icon on one of the angle rows in the Angle Editor.

# Discover the Today view

Notification Center now includes a Today view with add-on widgets

## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

10 minutes

## YOU'LL NEED

OS X 10.10, internet connection, Apple ID, one or more third-party widgets



One of the most noteworthy things about Yosemite is the way that OS X and iOS are not just working more closely together, but the desktop OS is adopting some of the best bits from the iPhone and iPad. The big revamp to Notification Center in iOS 8 has proven especially popular on mobile devices, enabling users to use the new Today view to see regularly accessed information, and add widgets to customise the experience.

This system has now come to OS X, providing at-a-glance views of calendar events, reminders, weather forecasts, stock prices, and more. It remains to be seen whether developers get behind the system as wholeheartedly as they have on iOS, but even though it's still relatively early days we've already seen a number of very useful third-party widgets arrive in the Mac App Store. Here we'll show you how to use these and Apple's default widgets, along with the Today view in general.

Note that if you try out a lot of widgets, and then discard a bunch of them that you don't actually want to stick with, OS X has a tendency to cache



Yosemite's Notification Center has become more useful by integrating the extensible Today view.

*The system provides at-a-glance views of calendar events, reminders, weather forecasts and more*

them in memory, even if you uninstall their parent apps. A restart fixes this, but it's quicker to open Terminal and reboot Finder by typing the command 'killall Finder'. Hit `⌘`, and your Finder windows will briefly disappear and then reappear. When you open Notification Center, any uninstalled widgets will be gone.

**Alan Stonebridge**

## HOW TO | GET STARTED WITH TODAY VIEW

### SCREEN CORNERS

It can be fiddly to hit Notification Center's menu-bar icon; try dragging your pointer to a hot corner. Open Mission Control in System Prefs, click Hot Corners, choose a corner menu and select Notification Center.



### 1 Open Notification Center

To access Notification Center, click the icon on the far right of the menu bar. It then slides across, above other on-screen content. As in iOS, you get a Today tab for time-sensitive info and widgets. If your screen can't show it all, scroll up and down with a two-finger drag/swipe.



### 2 Get started with editing

The first time you access Today view, you'll see Apple's default layout. The Weather app will ask for permission to use your location; click OK in the Weather widget. Click Edit (at the foot of the panel) to expand Notification Center to see installed widgets (left) and those you can add (right).





### 3 Switch some widgets

Widgets can be added/removed via drag and drop or using the +/– buttons. Try removing Stocks by clicking its – button; it'll move to the right-hand pane. Add World Clock by clicking the + ; it'll move to the left. Slide the drag-handles at the right of widget titles to reorder your installed widgets.



### 4 Customise a widget

Various widgets can be customised. Click Done to stop editing, then move your pointer over the World Clock widget, and click the 'i' to put the widget into edit mode. Click Add to create a new clock, then type and select a location for it. Drag the clocks to reorder them. Click Done when finished.



### 5 Access weather details

Some widgets, such as Weather, provide more info when interacted with. By default you see current conditions, but click a location and an extended forecast is provided, showing the next few hours and also the coming days. Using the same process as step 4, you can add further locations.

### 6 Detect third-party widgets

The Today view in OS X Yosemite is extensible, which means you can add third-party widgets installed via the Mac App Store. Also, some apps have an associated widget. When a new widget is detected by your Mac, the Edit button (at the foot of the Today view) will alert you about new items.



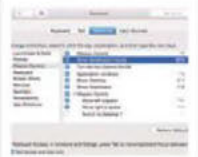
### 7 Add third-party widgets

You add third-party widgets in the same way as the built-in ones, and may need configuring. Note that Today view is primarily designed for 'at a glance' information that's important to you, so put what you consider most useful at the top, and resist the temptation to install too many here.

### 8 Interact and experiment

Some third-party widgets may interact with their associated parent apps. For example, if you click a total in the PCalc widget, it's sent to the PCalc app (launching the app if necessary), saving you having to copy and paste the value. As ever, experiment to find similar neat touches elsewhere!

## KEYBOARD SHORTCUT



To use the keyboard to activate Notification Center, open System Prefs, and select Keyboard > Shortcuts > Mission Control. Tick Show Notification Center, and click the shortcut area. Press your shortcut (such as **⌘+F6**) to define it.

## JARGON BUSTER

### Widgets

These are tiny apps which often have a single, focused purpose and plug-in to services. Many operating systems provide the means to house them in a single zone, rather than have them clutter your device.

# Take control of iTunes 12

Let the all-new iTunes mix your music and share your media

## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

At least 15 minutes

## YOU'LL NEED

OS X 10.7.5 or later, optionally iPhone, iPad or iPod touch



iTunes is easy to make more personal. You don't actually need to build playlists by hand either, or even specify criteria for tracks you want to hear by creating a Smart Playlist. Instead, you can pick a single track or genre from your library and tell iTunes to generate a playlist or a continuous mix based on that one piece of information alone.

If you're playing DJ at a party, you'll definitely want to master the Up Next feature, which enables you to put songs in a queue and make adjustments to the order of playback on the fly.

iTunes takes up a lot of space on the desktop, so there's a MiniPlayer mode that provides all of the essential features for controlling playback in a much smaller window that's ideal for keeping open at the side of your desktop.

Got an iPod or other iOS device that you want to copy media to (who hasn't)? You can copy it from iTunes to the device. If you've got too much music to fit on your device, take a look at iTunes Match – this makes your music available to stream over the internet, even if you bought it on CD originally.



Intelligent features enable iTunes 12 to serve up great mixes of music with minimal effort.

*A MiniPlayer mode provides all of the essential features for controlling playback in a smaller window*

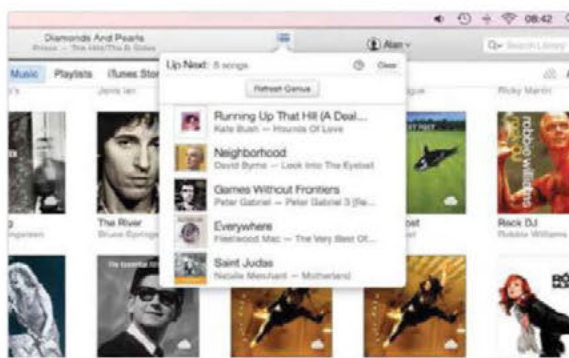
You can also stream music and other media between devices on your home Wi-Fi network, set up your family's iTunes Store accounts to download each other's purchases on your personal devices, and even manage your kids' spending. Let's see how to do all these great things in the new iTunes 12.

**Alan Stonebridge**

## HOW TO | GET MORE OUT OF iTUNES

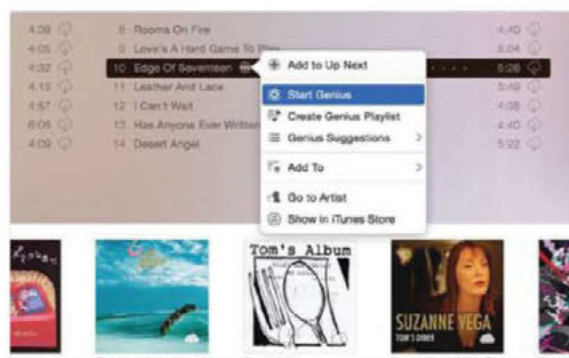
### REMOTE CONTROL

Apple's Remote app (<http://bit.ly/iosremote>) enables you to browse your Mac's iTunes library and control what's playing using an iPhone, iPod touch or iPad that's on the same network as your Mac.



### 1 Choose what plays next

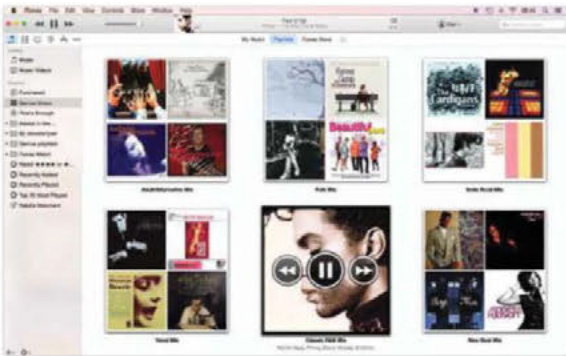
To see what's up next, click the list icon at the right of the playback monitor. To add a track, right-click it and select Add to Up Next, or Play Next to prioritise it. Or, drag and drop a track or several onto the playback monitor to add them to Up Next. Click the clock icon to see previously played tracks.



### 2 Genius Playlists

Choose Store > Turn On Genius to send details of your library and listening habits to Apple. It uses such details from millions of people to create Genius Playlists. After data is received from Apple, right-click a track and choose Start Genius to listen to tracks thought to go well together.





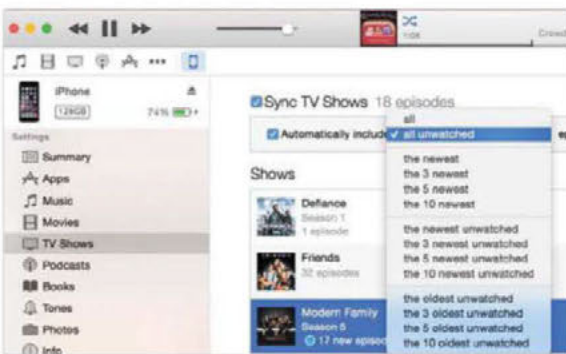
## 3 Genius Mixes

Genius data is also used to create continuous, genre-themed mixes. Select the Playlists view, and choose Genius Mixes on the left. Move the pointer over a mix and double-click to play it. Click a mix's name once, and then again to rename it. Right-click a mix for an option to remove it.



## 4 The MiniPlayer

Click the current track's artwork in the playback monitor to switch from the large window to the MiniPlayer, which fits neatly at the side or corner of the desktop. Search for artists, albums and songs by pressing **⌘+F** and typing, and add things to Up Next by clicking the + at their left side.



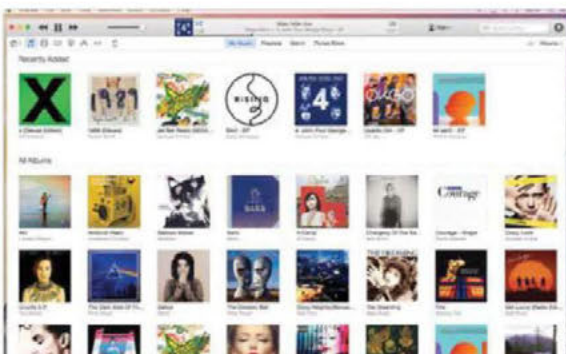
## 5 Copy media to your device

Connect your iPod or iOS device and click its icon in iTunes (top-left). In the sidebar this reveals, click a category and choose what to copy. Click the Apply button, then Sync. Or, under Summary, choose to manually manage media, then drag items and drop them onto your device in the sidebar.



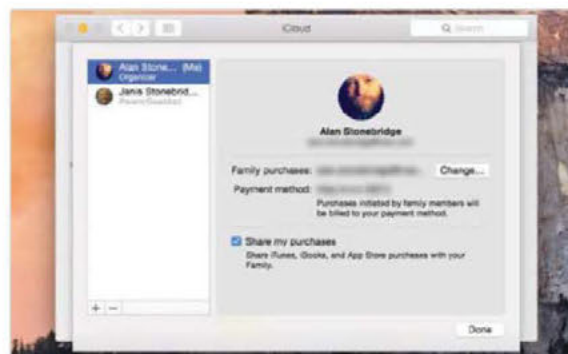
## 6 iTunes Match

For an annual subscription, this service matches music in your library, even tracks you added yourself, with items in the iTunes Store to make them available on all your devices. If a track can't be found in the store, then your original will be shared. Choose Store > Turn On iTunes Match to learn more.



## 7 Home Sharing

Home Sharing enables media from your library to be streamed to up to four more Macs and iOS devices over your home network. On a Mac, choose File > Home Sharing > Turn On... and enter your Apple ID. In iOS, go to Settings > Music, scroll down and enter the same details at the bottom.



## 8 Family Sharing

This groups up to six Apple IDs to share a payment method and each other's purchases. The family organiser can also approve a child's purchase requests. From a Mac signed into the iCloud account that will be the organiser, get started in System Preferences > iCloud > Set Up Family.

## AIRPLAY

iTunes can stream music to one or more speakers using AirPlay. With such a speaker on your network, click the AirPlay icon that appears to the right of iTunes' playback controls to choose which speakers in your home the music is played on.

## JARGON BUSTER

### Bit rate

The higher a song's bit rate (quality), the greater its file size. If space is short on your iOS device, you can sync at a lower bit rate. In the device's Summary in iTunes, click 'Convert higher bit rate songs...' and select a lower value.

# Manage conversations

Master the features of iOS 8's Messages app



## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

A few minutes

## YOU'LL NEED

iPhone, iOS 8, an Apple ID, at least one Contact with an iOS device or a Mac



The Messages app is an obvious place from which to send text and multimedia messages, and it's also packed with advanced features for managing conversations. Many of these features are tied into Apple's iMessage system. An iMessage is a type of message that can be sent only between Apple devices, whether they be iPhones, iPads, iPod touches, or Macs – they just need to be online.

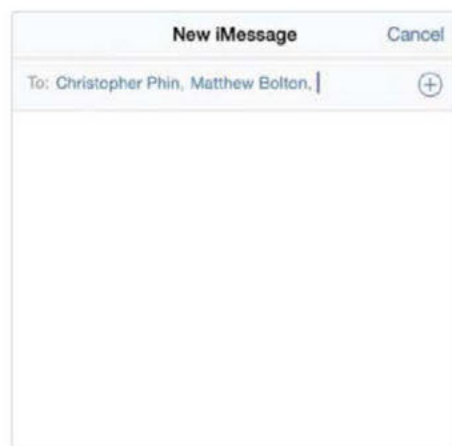
Messages saves you resorting to a social network such as Facebook to

arrange meeting up with a number of people. That's because iMessage allows everyone who has an Apple device to take part in a group conversation so that the details can be agreed upon together. When plans are less definite, you can share your location – either at that point in time, or with live updates for a few hours if you're likely to roam elsewhere.

Messages also gives you control over how intrusive any conversation can get, regardless of whether it takes place by iMessage or SMS, by suppressing notifications about one while allowing another to still grab your attention. Also welcome is the fact that Messages – and the Phone and FaceTime apps, too – can block unwanted contact, whether it's from people you know or cold calls from salespeople. **Alan Stonebridge**

*You can stop intrusive conversations by suppressing notifications or blocking unwanted people*

## HOW TO | GET STARTED WITH iMESSAGES



### 1 Sign in to iMessage

The Messages app can send three different kinds of message: SMS and MMS, just like most other phones, and iMessage (available only on iOS devices and Macs). You don't have to use Apple's proprietary messaging system, but it offers practical extras as long as the people you want to reach have Apple devices and also enable the system. In Settings, find and tap Messages, turn on the iMessage switch, and sign in with your Apple ID.

### 2 Contact options

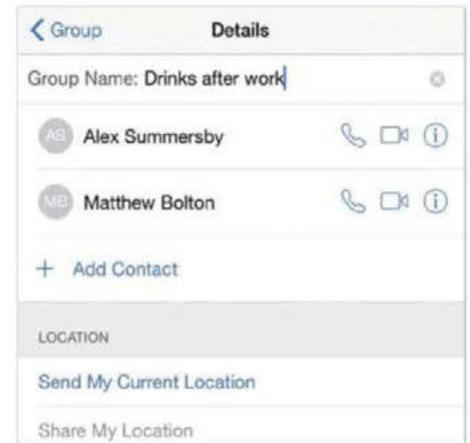
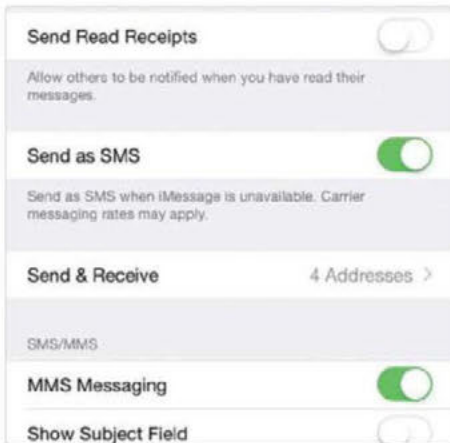
Tap Send & Receive to pick which email addresses linked with your Apple ID can be used by other iOS and Mac users to contact you, rather than giving out your phone number. Tap an address to toggle whether it can be used; those that can have a tick beside them. Your phone number is permanently enabled. Further down this page you can choose whether your phone number or an email address is used to identify you when you send an iMessage.

### 3 Write a text message

Open the Messages app and tap the pen and paper icon at the top-right to start writing a message. Type the name of someone in your contacts list, or tap the + to select from that list. A message can have multiple recipients, but beware that doing this for an iMessage doesn't just send a copy of the message to each person (like SMS). Instead, it starts a group conversation, and everyone in the conversation receives the other participants' responses by default.



## HOW TO | USE ADVANCED iMESSAGE FEATURES



### 1 SMS or iMessage

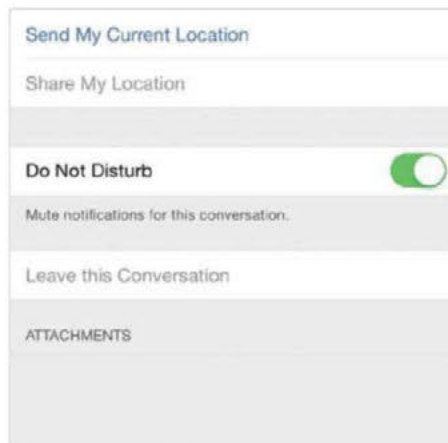
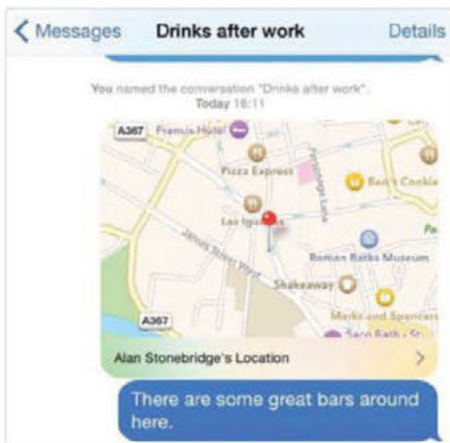
Note the colour of a contact's name after you enter it. When you add a contact, the app confirms with Apple whether that number or address is registered to receive iMessages. If so, it will be blue. Otherwise it'll be green, which means the message will be sent as an SMS or MMS to ensure that their phone can receive it. Enabling Messages > Send as SMS in Settings ensures the Messages app will fall back on using SMS if the iMessages service is unavailable.

### 2 Read receipts

After sending an iMessage, 'Delivered' should appear below the message's bubble to confirm receipt. If the recipient has read receipts enabled, that will eventually change to 'Read', with the time at which they did so. If you don't want your iPhone to send read receipts, turn off Messages > Send Read Receipts in the Settings app. Dates appear between message bubbles. To see the time messages were sent, swipe from right to left and keep your finger on the screen.

### 3 Group messaging

Group conversations are listed by their participants' names, but you can assign a more meaningful label. Tap Details at the top-right of the conversation, and then swipe downwards to reveal a field above the list of participants, into which you can type a label such as 'Reunion'. Swipe from right to left on a participant's name to reveal a Delete button; tap this to stop them receiving your contributions. Tap Add Contact to add more people to the conversation.



### 4 Share your location

When meeting someone, tap Details and look under the Location heading. You can share your current location if you'll be there for a while or share your live location for a period of time – an hour, until the end of the day, or indefinitely. When you receive a location, tap the map to view it fullscreen. Choose walking or driving directions and tap Start, or tap Apps to find navigation apps that will help get you there by, say, public transport based on where you are.

### 5 Mute a conversation

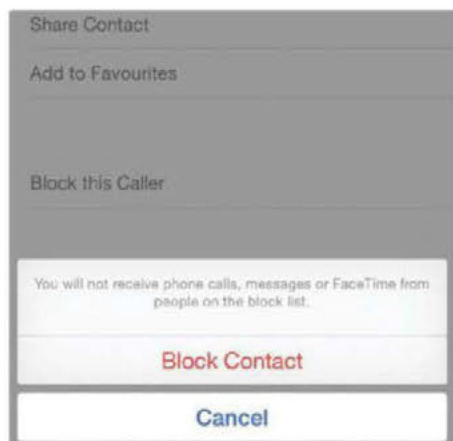
Notifications from chatty conversations can become a distraction when you're busy. Tap Details at the top right of the conversation and turn on the Do Not Disturb switch on this page. This doesn't turn on Do Not Disturb for everything on your iPhone, as the switch of that name in Control Centre does – it mutes only this conversation. You'll still receive messages so you can catch up on the discussion later, and at any time you can turn this switch off again.

## Routing to a Mac



Continuity brings a new set of features to iOS 8 and OS X Yosemite, one of which is the ability to make and receive SMS and MMS messages and phone calls from Macs and iPads. It does this by relaying them through your iPhone. All devices – including the iPhone – need to be connected to the same Wi-Fi network, and signed into the same iCloud account. In Contacts on your Mac, open a person's contact card and move the pointer over the number to call them on. Doing this will reveal a phone icon to the right. Click that icon and the Mac's speakers and microphone will be used to make the call. SMS and MMS messages can be sent and received in the Mac's Messages app.

## HOW TO | USE ADVANCED iMESSAGE FEATURES (CONTINUED)



### 6 Block senders

A sender of unwanted messages can be blocked by tapping Details, the 'i' symbol next to their name, and then Block this Caller. This also prevents contact through FaceTime and phone calls. You can review who is currently blocked under Settings > Messages > Blocked. You can preemptively block people there, too, if they're in your Contacts app. In that app, add the pest to a Blocked group and tap Groups to hide that group so that only people you value are shown.



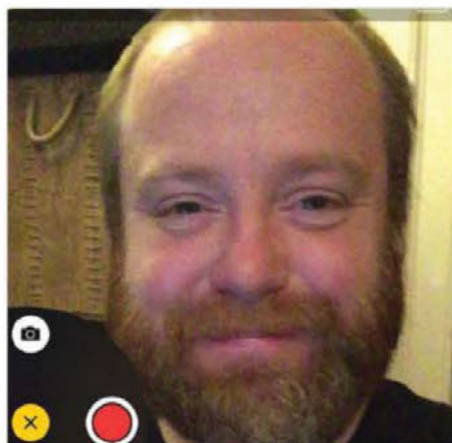
### 7 Send a soundbite

In Settings, check whether Messages > Raise to Listen is enabled. When it is, all that's needed to record a soundbite – a short audio message – is to lift your iPhone to your ear. When you do, the iPhone will emit a short tone to indicate that it's recording. Speak, and then lower the iPhone when finished. The soundbite will be sent automatically, with no chance to review it. If you'd rather have the chance to hear it back first, another method allows for that...



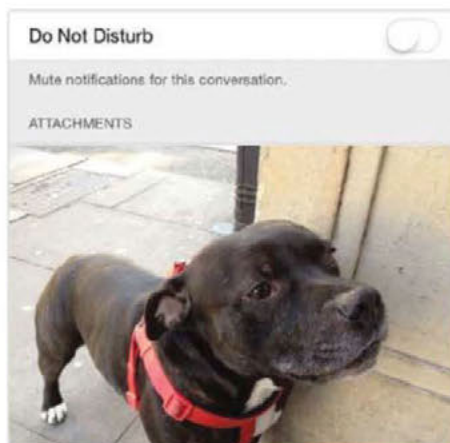
### 8 Audio option

Tap and hold the microphone button to the right of the field into which you would type an iMessage. The app will record as soon as – and for as long as – you hold your finger on that button. When done, slide your finger upwards onto the arrow to send the soundbite, or slide it left onto the cross to delete the soundbite. To listen to the soundbite before making this decision, lift your finger and then tap the play button that appears where your finger was.



### 9 Send a photo or video

Tap and hold the camera icon on the left to take a photo or video using the iPhone's front-facing camera. The screen will show what the camera sees. In the circle of actions, slide your finger onto the camera icon and let go to take and immediately send a photo. Slide your finger onto the red button and hold it there to record a video. When done, slide your finger onto the arrow to send the video, or lift your finger and tap the play button to watch it first.



### 10 Review attachments

Tap Details (top-right of a conversation), then scroll down to see photos, videos, soundbites and other attachments sent and received. Tap and hold one for actions: attachments can be copied and pasted between conversations, or deleted. Tap More to mark several attachments to save or delete. In Settings > Messages there are two items labelled Expire, which can be set to remove audio and video attachments after two minutes or never.



### 11 Set expiry dates

The text in SMS, MMS and iMessages doesn't take up much storage space, but you may want to have them deleted automatically after a period of time so that you don't have to manage them yourself. Go to Messages' settings and tap Keep Messages. The options available are to keep messages for 30 days, one year, or forever. If you choose either of the first two options, you'll be forced to delete messages that are already older than that right away.



# Get better email with Mailbox

Take charge of your inbox with this free app

## SKILL LEVEL

Anyone can do it

## IT WILL TAKE

10 minutes

## YOU'LL NEED

iPhone, Mailbox, either iCloud or Gmail accounts



Love it or loathe it, email isn't going away any time soon. With its deluge of spam, junk and adverts, many of us find wading through hundreds of emails a daily chore. But as long as business are using it it's here to stay.

However, inbox sifting doesn't have to be an tedious task. While Apple makes a perfectly functional email app called Mail, there are plenty of vastly better email clients on the App Store. Our favourite is Mailbox.

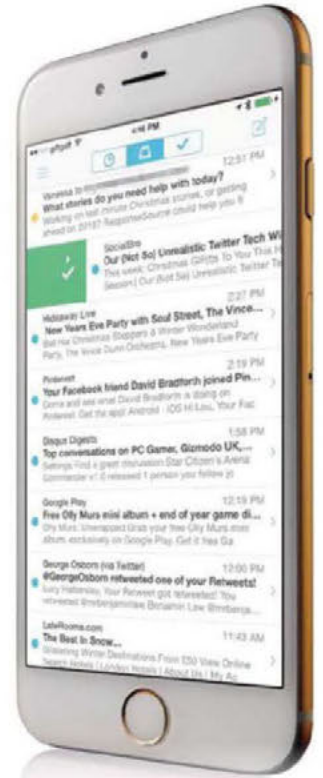
With Mailbox you can quickly skim through your messages, and swipe away the ones you don't want. You can also swipe to read (or delete) all of the messages in your inbox at once. So if there's nothing useful, you can quickly delete everything and move on, which we really like.

Mailbox is for canny email users who routinely empty their inbox (known as Inbox Zero). To this end it has a few tricks up its sleeve. You can swipe a message off to the left and set it to re-appear later (say, in three hours). This is great for emails you know are important, but just can't deal with now.

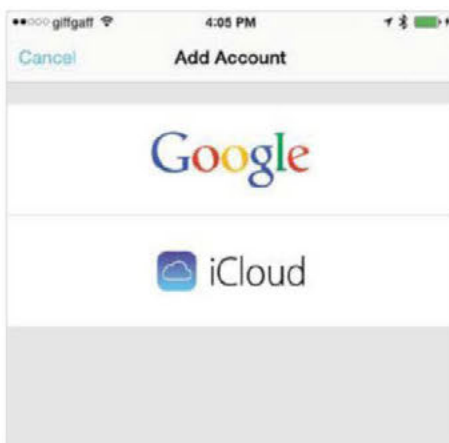
If you are swamped with emails, then Mailbox is probably the best apps you can get. Discover how to get Mailbox up and running on your iPhone in the walkthrough below.

**Lou Hattersley**

*Mailbox is designed for canny email users who routinely empty their inbox*

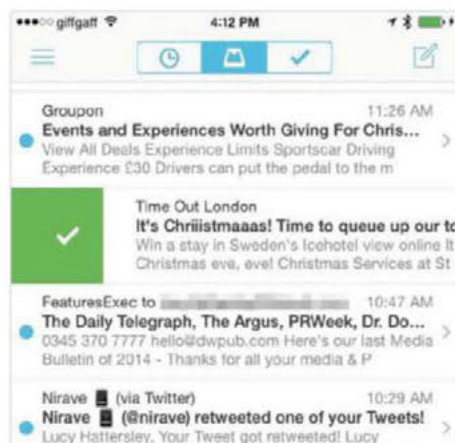


## HOW TO | MANAGE YOUR EMAIL IN MAILBOX



### 1 Sign in

Start by adding your accounts. Tap Add Account and choose either iCloud or Google (you can only add these two mail services so far). Enter your email address and password for either account. You should also link Mailbox to Dropbox if you have an account, tap Menu > Settings > Sign In To Dropbox and enter your Dropbox user ID and password. Tap Menu > Mailbox to read your emails.



### 2 Read and delete email

All your emails appear in the Mailbox list as they do in any email client. You can mark messages as read by swiping them to the right (so a green tick appears). Slide them further to the right and the green tick turns into a red cross, indicating that the email will be deleted. Scroll to the very bottom of the Mailbox and swipe the bar at the bottom to the right to read, or delete all the messages in your Mailbox.



### 3 Read later and lists

Swipe an email to the left to reveal a yellow Later option. A set of nine buttons appear over the screen for times such as Later Today (three hours time), This Evening, or Tomorrow. Tapping one of these removes the message from the Mailbox, and returns it to the Mailbox at that time. Slide a message even further to the right to add it to a list such as To Buy, To Read or To Watch.

# Apple TALK

Have your say on everything Mac, OS X and iOS



## Welcome...

There's always plenty to say about Apple, whether it's good or bad. And we'd particularly love to hear what you think? Write to us at [letters@macformat.com](mailto:letters@macformat.com) and the remember, the Star Letter wins a prize!

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## JOIN US ONLINE

- Emailing your questions to [letters@macformat.com](mailto:letters@macformat.com)
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- Join the conversation with our Facebook page
- Keep up to date by following us on Twitter at @MacFormat
- Are you on App.net? So are we! We're @MacFormat there too
- Subscribe to our videos at [youtube.com/MacFormatUK](http://youtube.com/MacFormatUK)



## STAR LETTER



### Wi-Fi storage woes

In your February 2015 issue the article Improve Your Mac had some great advice. But sometimes all the pieces do not mesh together perfectly, especially when Apple throws a late-cycle spanner in the works.

Under Wish You Had Bought Bigger? you mention the use of external storage devices, and especially wireless ones via Wi-Fi. And under Upgrade Your iOS Device you say "you can also stream movies and TV shows bought from the iTunes Store".

It is important that people know that late in the iOS 7 period, and continuing in iOS 8, Apple has modified the DRM decode routines in iOS such that movies and TV shows purchased from the iTunes store will no longer play if they are stored on wireless storage devices. In my case, since I primarily



Under iOS 8, wireless hard drives like this one will no longer stream DRM'd movies.

enjoy those purchased items when I am travelling on aeroplanes (which I do a lot of) my use of everything I paid for has been taken from me. I have lost over \$3,000 paid to Apple!

Apple's service people tell me that the DRM is now working as designed. I never should have been able to use movies and TV shows in this way. Your readers should be alerted to this issue before buying any external wireless storage device.

**Christian Brynes**



### YOU'RE A WINNER!

Drop us an email at [letters@macformat.com](mailto:letters@macformat.com). If yours gets picked as the MacFormat Star Letter, you win a Native Union JUMP Cable, a charger and battery combo for your iPhone.



**Christian Hall says:** Thanks for the tip-off Christian. This fixing of a 'bug' in Apple's DRM will potentially affect many purchasers of wireless storage, and we're not aware of an official announcement on Apple's part. Still, Wi-Fi drives are great things to own if DRM allows. Not many folk can afford to splash out on the highest capacity iPhones and iPads, so the ability to offload your media collection is something we should all consider.



## Media clouds

I currently have a 2011 MacBook Pro which is my pride and joy. I also have an iPhone 6 (128GB), and in order to save space I keep all of my media on an external Western Digital My Cloud 3TB drive. I can access files using the My Cloud iOS app and also by mounting it as a network drive on my Mac. I use it for UPNP to my PlayStation and to store my music media. I store my iTunes library and any apps locally on my MacBook but keep the huge amount of media on the external drive.

My question is two-fold. The first part is whether you know of any other iOS apps that can access the files stored on the My Cloud drive. The My Cloud app is all well and good but the UX isn't all it could be.

My second question relates to an older external drive which used to be the home of all my media. It is at the moment a backup of all my media, but I would like to be able to plug it into my router and use it as a cloud storage device accessible as a network drive from my Mac and an iOS app so I can access, play, edit those files on the go. I have seen several services like OwnCloud and a rather nifty Kickstarter project called Lima. I don't want my local Mac files to be synced, I simply want to be able to put my old hard drive to use and use it in the same manner as I do the My Cloud.

I would love a solution that brings the same Apple-like simplicity and sleek UI/UX so that this old drive can be dusted off and put to good use.

**Adam Martin**



**Matt Bolton says:** Does your My Cloud drive have a USB port on the back? If it does, a solution to your second question could be as simple as plugging your existing hard drive into that, and configuring it using the My Cloud interface. Alternatively, if your router supports it, you can plug it into a USB port on the router and either access it through FTP or use something like a Pogoplug to create your own server. Your success in doing this will depend entirely on what model of My Cloud and router you are using.

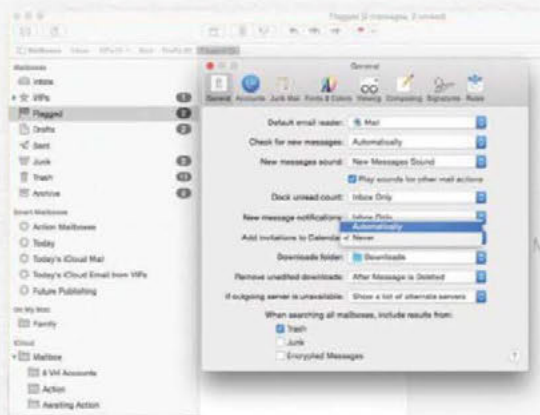
The My Cloud app is designed to work with the drive, and we're not aware of any alternatives. Perhaps we can throw this one open to our readers...

## Mail pain

One of the big attractions of Apple devices for me has always been that they let me get on with my work without getting in my way. Software that focuses on letting me get my job done without distraction or glitches is a big plus for me, and Apple has done a great job over the years of delivering just that... until recently.

Mail in particular is beginning to wind me up. There has been a series of bugs over the last year and it seems as soon as one is fixed, another is introduced. The latest annoyance is Mail showing read messages as unread (the blue dot next to the messages doesn't disappear). Things work fine for ten minutes and then I have to quit Mail or switch folders to get it working again. It doesn't stop me doing my job but it's an irritation and I'm beginning to 'think flaky' rather than 'think different', which is not something I usually do with Apple.

I have to hold my hands up and say that I have Mail plugged into our office Exchange server, which I guess puts me in the minority. It also means that I don't have a huge choice of mail clients. Postbox, for example, looks really interesting but I can't use it without enabling IMAP on the server which isn't something I can get done quickly. I moved to Apple partly to get



Exchange without IMAP isn't a standard feature of many email apps. We did a group test of third party clients in MF277 if you fancy a change.



WD My Cloud drives have a USB port on the back that can connect to extra storage.

away from Microsoft's fixation with pop-ups, so Outlook isn't something I want to go back to.

It's great to see Apple release new features, but quality has to come first. I hope that Apple sticks to its core values and gets to grips with releasing buggy software, which only serves to irritate customers.

**Phil Adcock**



**Tom Harrod says:** Your use of an Exchange server narrows your options, but you could try Mozilla Thunderbird with the ExQuilla extension. It's worth, though, checking that the problem isn't at the server end before dumping Apple Mail completely.

## Burning issue

I have just read the email from Anthony J Brookes in January's Mac SOS regarding iDVD, and the answer by Luis Villazon. iDVD still works in Yosemite so there is no need to buy anything else to burn DVDs, and with regards to no one burning DVDs any more, my view on this differs. I create photo slideshows and burn them to DVD using iDVD and give them to my family, as not everybody is able to receive streamed video but they are

able to view a DVD which is also more sociable. Also you need a drive to create music CDs for use in a car or home player. I love my iMac but I could not do without a DVD drive!

**Bernard Page**



**Paul Blachford says:** We've been fairly happy to see the DVD drive vanish as Macs get slimmer and digital delivery more common, but they do have their uses. You don't need to shell out for an Apple USB Superdrive, any USB DVD drive should work and they go for less than £20 online.

## iCloud removal

My problem is removing an iCloud account from an iPad. The login for the account is an email address which we can no longer access, and it has never been verified on the iPad. I have tried to remove the account, but it doesn't accept the password.

The iPad has been updated and I have changed the login email on the iTunes account, but when the iPad was restored it placed the same original account on the iCloud section, so whenever I back it up and restore it



An iCloud account is tied to the email address that's used to create it, but this can be changed if you need to.

the same happens. There is nothing in the section that I can do to remove it or enter a new account. I might be missing some really obvious but can't find a solution.

**Dale Brown**



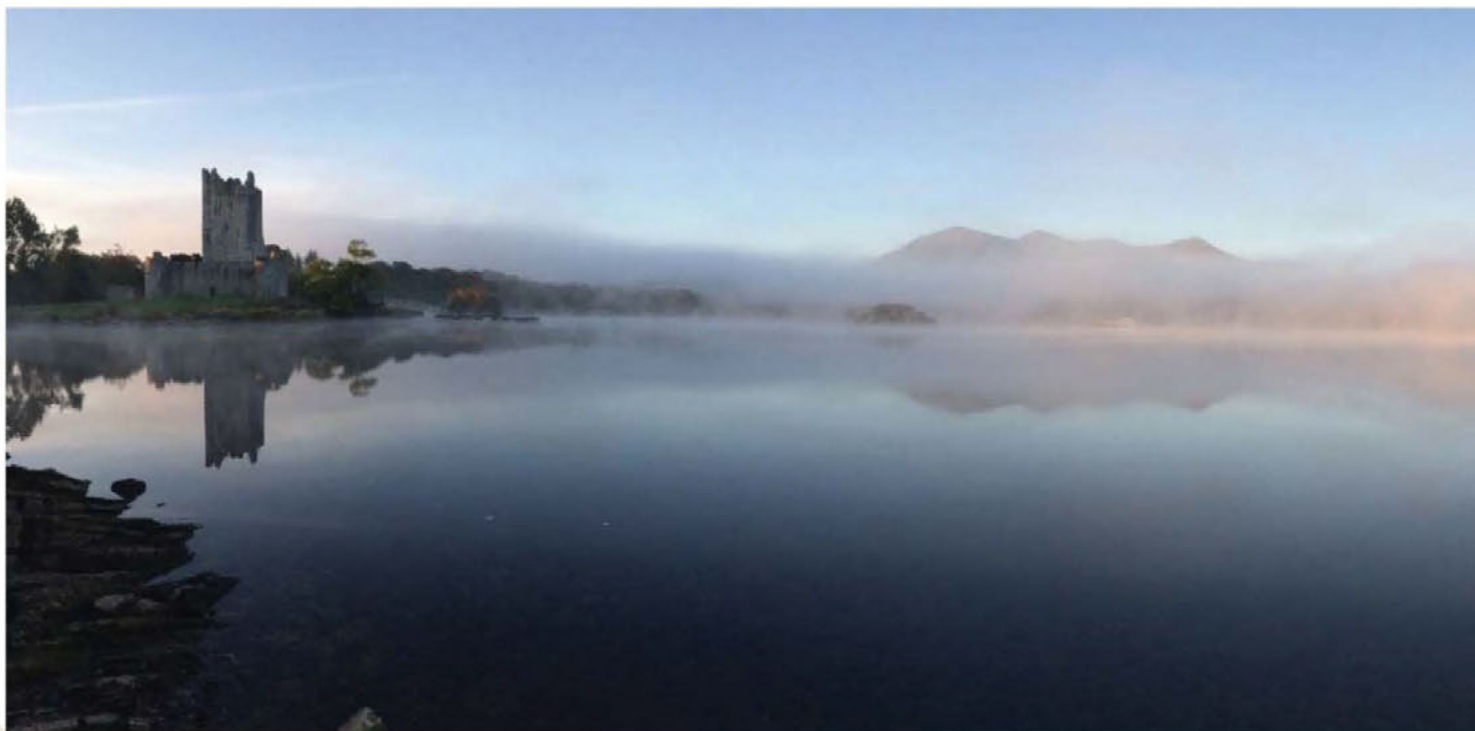
**Christian Hall says:** You can change the email address that's associated with your Apple ID, or

iCloud account, by following the steps at [support.apple.com/en-gb/HT201487](https://support.apple.com/en-gb/HT201487). The third step details three options for verifying that you are the account holder so you can make changes to your Apple ID.

Of course, email authentication is out of the question in your case. The most straightforward of the other two options – and the one that's most likely to be available to you, since two-step verification is an

## PhotoSTREAM

Send the best of your iPhone shots to [photos@macformat.com](mailto:photos@macformat.com)





optional security measure – is to answer some security questions that you should have been asked to set up when you originally created your iCloud account. After you've done this, follow the remaining steps to change and verify the email address associated with your Apple ID.

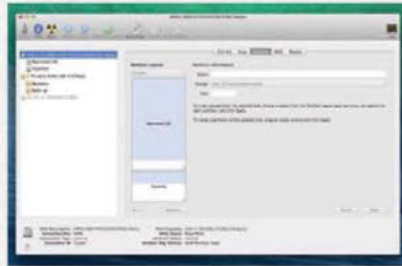
Now that you have changed the email address and password associated with your old Apple ID, you should have no problem removing it from the iPad.

If you can't remember your security questions and don't have two-step verification configured on your account, you'll need to contact Apple to ask whether it can change your account on your behalf. You may need to provide Apple with some proof that you are indeed the account holder. Do so through the Contact Us button at [www.apple.com/uk/support/appleid/contact](http://www.apple.com/uk/support/appleid/contact)

## Access denied

I bought an iMac on eBay and am very happy with it – I just can't wait to get using it fully.

My problem is that, although I have an Apple account on my iPad and iPhone, the Apple Store login has the



Booting into Recovery mode, formatting and reinstalling the OS makes your Mac like new.

email of the previous owner embedded in and I cannot erase it. I also need to set up as an Administrator on the Mac but again do not know how to change the settings.

**Stephen Cottrell**



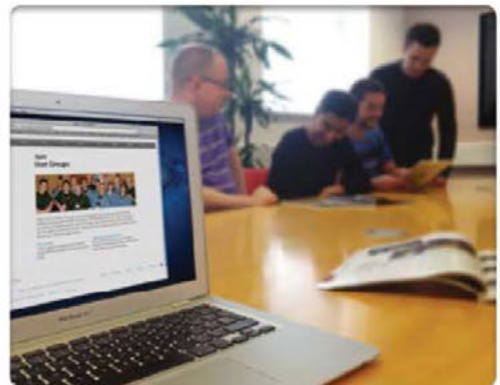
**Matt Bolton says:** It sounds like your Mac wasn't wiped clean by its previous owner prior to selling it to you. The best way to do this is to erase the hard drive and reinstall OS X. Back up any documents you've got on the Mac, then follow the steps at [support.apple.com/en-gb/HT201376](http://support.apple.com/en-gb/HT201376). If, on holding **⌘**+**⌘**, a padlock appears on the screen, the previous owner has set a firmware password and you'll need them to tell you what it is.

**Light and shadow** This iPhone panorama of Ross Castle in Killarney, Ireland was captured by Anthony Byrne at first light as the rising sun burnt off the early morning fog, slowly revealing the mountains in the background.



## User Groups

Find fellow Mac enthusiasts near you!



Search the list below to find your local Mac user group – and if you can't find one, why not start one yourself? It's easy and fun.

**Berkshire & North Hampshire MUG Reading area**  
[i.j.burn@reading.ac.uk](mailto:i.j.burn@reading.ac.uk)

**Bracknell Forest MUG, Bracknell, Berks**  
[bfnugoffice@gmail.com](mailto:bfnugoffice@gmail.com)  
[bfnug.org](http://bfnug.org)

**Bristol and Bath MUG**  
[info@bbmug.co.uk](mailto:info@bbmug.co.uk)  
[bbmug.co.uk](http://bbmug.co.uk)

**ClubMac Ireland, Dublin**  
[secretary@clubmac.ie](mailto:secretary@clubmac.ie)  
[clubmac.ie](http://clubmac.ie)

**Cork University College, Cork**  
[d.murphy@cs.ucc.ie](mailto:d.murphy@cs.ucc.ie)  
[ucc.ie/mug](http://ucc.ie/mug)

**Cumbria Mac Enthusiasts, Barrow-in-Furness**  
[contact@macenthusiasts.co.uk](mailto:contact@macenthusiasts.co.uk)  
[macenthusiasts.co.uk](http://macenthusiasts.co.uk)

**Deaf Mac Users – website group for the hard of hearing**  
[tech.groups.yahoo.com/group/deaf-macs](http://tech.groups.yahoo.com/group/deaf-macs)

**Edinburgh MUG, Edinburgh**  
Twitter: [@edmug](https://twitter.com/edmug)  
[edmug.org.uk](http://edmug.org.uk)

**Exeter MUG, Exeter**  
[examug@mac.com](mailto:examug@mac.com)  
[examug.org.uk](http://examug.org.uk), Twitter: [@examug](https://twitter.com/examug)

**Fife MUG, Fife**  
[johnvandieken@gmail.com](mailto:johnvandieken@gmail.com)  
[famus.co.uk](http://famus.co.uk)

**Harlech MUG, South Snowdonia**  
[ian@climb8.com](mailto:ian@climb8.com)

**London MUG, London**  
[secretary@lmug.org](mailto:secretary@lmug.org)  
[lmug.org.uk](http://lmug.org.uk), [@londonmacgroup](https://twitter.com/londonmacgroup)  
Facebook: [facebook.com/groups/35108081221](https://facebook.com/groups/35108081221)

**Midlands MUG, Birmingham**  
[mmug.org.uk](http://mmug.org.uk)

**North West Mac Group, Near Warrington**  
[info@nwmug.co.uk](mailto:info@nwmug.co.uk)  
[nwmug.co.uk](http://nwmug.co.uk)

**Norwich MUG, Norwich**  
[paul@durrant.co.uk](mailto:paul@durrant.co.uk)  
[nmug.org.uk](http://nmug.org.uk), Twitter: [@NorwichMUG](https://twitter.com/NorwichMUG)

**OxMUG, Oxford**  
[oxmug.org](http://oxmug.org)

**South Essex MUG, Wickford, Essex**  
[seal-apple.co.uk](http://seal-apple.co.uk)

**South Wales MUG, Cardiff**  
[terlga@freenet.de](mailto:terlga@freenet.de)  
[swmug.org.uk](http://swmug.org.uk)

**Stroud Mac User Group, Stroud**  
[jimuy@aol.com](mailto:jimuy@aol.com)

**Suffolk Mac User Group, Ipswich**  
[mikekwasniak@me.com](mailto:mikekwasniak@me.com)  
[suffolkmacusergroup.co.uk](http://suffolkmacusergroup.co.uk)

**Surrey MUG, Surrey**  
[surreymug.wordpress.com](http://surreymug.wordpress.com)

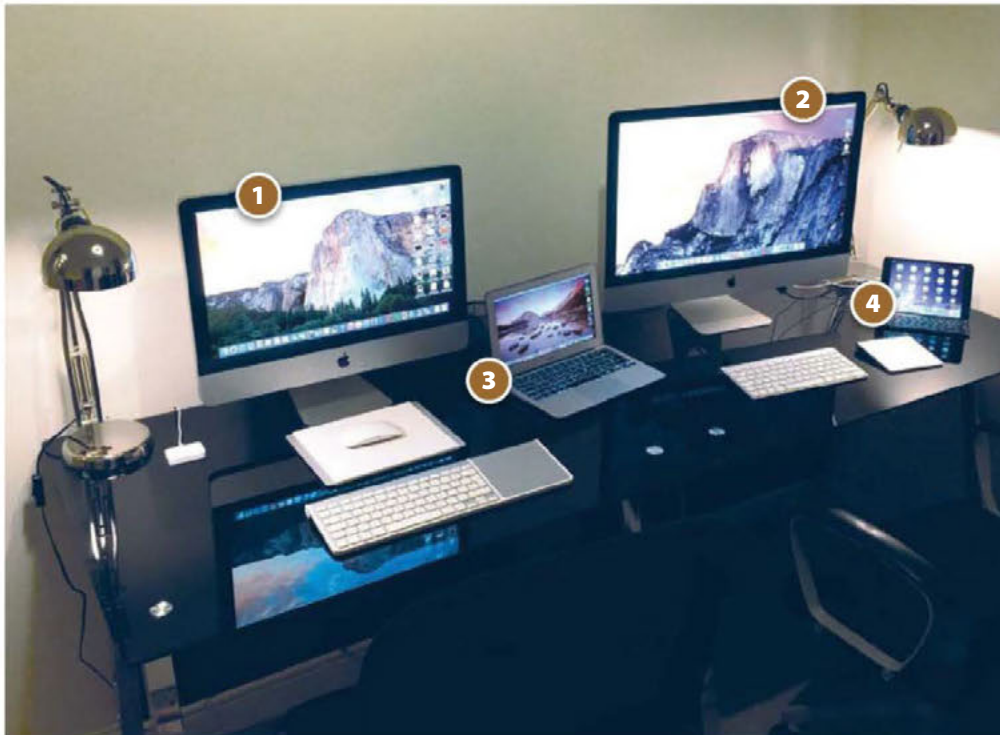
**Three Counties MUG Luton, Bedfordshire**  
[chris@3cmug.org.uk](mailto:chris@3cmug.org.uk)  
[3cmug.co.uk](http://3cmug.co.uk)

**Wessex MUGs Fareham, Dorchester, Bournemouth & Salisbury**  
[info@wamug.org.uk](mailto:info@wamug.org.uk)  
[wamug.org.uk](http://wamug.org.uk)

**Yorkshire MUG Doncaster & other towns**  
[support@ymug.org](mailto:support@ymug.org)  
[ymug.org](http://ymug.org)

# Me&MyMac

MacFormat readers  
share their beloved setups



## 2011 21.5-inch iMac

**1** Sean's first Mac is used when he needs to multitask, and as a backup to the other Macs. His family uses it for iTunes and iPhoto.

## 2014 27-inch iMac

**2** Sean's latest iMac is more powerful, and it has a bigger screen that provides Sean with the room he needs for complex projects.

## 2011 11-inch MacBook Air

**3** Sean opted for the smaller size of MacBook Air, and he says it's fast enough to run most of his apps.

## First-generation iPad mini

**4** Sean's first-generation iPad has been replaced with a smaller model. It's used to access documents as part of his mobile office.



## PROFILE

### Name

Sean Buchan

### Occupation

Project manager

### Been using a Mac for

Four years

### Favourite hardware

My 27-inch iMac

### Favourite software

iWork, Evernote

Sean uses Apple products to manage projects for the oil and gas industry from his home in Aberdeen. It all started with the original iPad, and he says he was "hooked on Apple products from then on". We can tell! In four years, he has amassed quite a collection of Macs and iOS devices, which are important to his job, whether he's working at home in the Granite City or away.

"The workhorse of my setup is the 27-inch iMac, where I do most of my detailed project-planning work, utilising various project software tools. But I use the MacBook Air and iPad mini as a mobile office when I visit clients. The MacBook Air is a joy to use and fast enough to run most of my key software (albeit on a smaller screen) and I find the battery life lasts long enough to get through the day even with intense use."

Sean's MacBook runs most of the same apps as his iMac, and it's more than just a portable stand-in. "I use the MacBook Air in meetings to make live markups on project documents using Evernote. It's particularly good at connecting to and utilising different Wi-Fi networks, which is key to my role having to access online databases wherever I may be, allowing me to work with project software or complex office documents."

If Sean's desk looks impeccable, that's got a lot to do with Evernote: "I use it to scan in hard copy files or

sticky notes so I can work virtually paper-free by having access to the documents at any time while I'm mobile and using my iOS devices or MacBook Air."

Apple's operating systems and cloud services have hit a few bumps over the years, but Sean is a big fan of their current incarnations.

"With Yosemite, iCloud has been improved and it's easy to use Handoff (one of my favourite features of Yosemite) between the iOS devices and the Macs."

Sean hasn't quite managed to shake off Windows, though. "I still have a Windows laptop... for a particular Windows-only software package – but then I can't wait to get back to working on the Mac. It just reminds me how good they are, and how the functionality of the iOS and OS X ecosystem is far superior to current Windows operating systems."

*The functionality of the iOS and OS X ecosystem is far superior to current Windows systems*



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One lucky winner will get the big-screen experience with an Epson EH-TW490 projector

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It comes packed with Epson's 3LCD technology to provide vivid colours no matter what you're watching, making it perfect for viewing live sports or playing games on screens

of up to 318 inches. The 12,000:1 contrast ratio will banish any thoughts of washed out pictures, while the 720p resolution delivers beautifully crisp images without the screen artefacts that can often afflict projector systems.

Thanks to its compact design and weight of just 2.4kg, the EH-TW490 can be placed pretty much anywhere without getting in the way – a real advantage compared to a space-hogging TV. It's easy to set up, and also comes with a handy carry case.

## The Question

For a chance to win an Epson EH-TW490 projector, just answer this simple question:

**The EH-TW490 is super lightweight, but how much does it actually weigh?**

- A) 2.4kg
- B) 4.1kg
- C) 5.7kg

For more information about the EH-TW490 projector, visit [epson.co.uk](http://epson.co.uk).

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*Plain-English advice you can really trust*

# iPhone 6

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If you have a technical issue that you need help with, please email us at: [sos@macformat.com](mailto:sos@macformat.com)

## MacSOS

*Your questions answered by our Apple expert in residence, Luis Villazon*



## The case of the identical filenames

**Q** I'm studying Business Computing and want to write C programs on my Mac that will eventually be run on Linux machines to be graded. Most libraries and source files we are given use the case to distinguish between files, so myFILE is different to MyFile, say. But OS X treats the filenames as identical. Can I make it recognise the difference, without manually renaming every file twice over?

**Brody Hamilton**

**A** The case sensitivity, or lack of it, isn't part of the operating system, it's part of the *filing* system that's created when you format (or partition) the disk. The default filing system for Mac disks is Journaled HFS+, which appears in Disk Utility as 'Mac OS Extended (Journaled)'. What you need is 'Mac OS Extended (Case-sensitive, Journaled)'. Converting your entire disk to this will require you to back it all up, reformat it and restore. And anyway, case-sensitive filing systems can confuse some system utilities. It's better to create a small partition in Disk Utility with a case-sensitive filing system, just for your university files.

**If you want a different filing system, you can put it on its own partition or in a disk image.**



New Macs don't include the Java runtime component by default anymore, but you can still download it.



## Is Minecraft trying to download viruses?

**Q** I treated myself to a new MacBook for Christmas. It's mostly for surfing and photos, but I want my grandson to be able to play Minecraft on it when he visits. Minecraft worked fine on my previous MacBook Pro (a 2012 model), but now when I try to start it, it claims I need to install legacy software. Is this safe to do?

**Alasdair Cranbourne**

**A** Yes. Minecraft uses the Java runtime component, which used to be bundled with OS X. This hasn't been included with OS X since Mountain Lion, because Apple views Java as a potential security risk. While it's true that some malicious software does try to exploit bugs in Java to attack your computer, the Java runtime itself is not a scam and downloading it from the official

site ([java.com/en/download](http://java.com/en/download)) won't infect your MacBook with anything. You can make Java safer on your computer by opening Java preferences (this should be added to System Preferences when you install Java) and unticking the box marked 'Enable Java content in the browser'.

The snag with this is that some other apps – Adobe Photoshop CS5 is one – won't run using the latest version of Java. They need a special tweaked version, available from Apple at [support.apple.com/kb/DL1572](http://support.apple.com/kb/DL1572). You can have both versions installed at the same time though.

Ultimately, the fix for these applications is for them to migrate away from Java or include their own bundled version with the program files. For Minecraft, Mojang is working on a new version to do just this, available soon. Once released, delete the old Java by searching for `javaappletplugin`, and dragging it to the trash.



## A much better email app

**Q** Ever since Yosemite was installed on my Mac Pro, Mail has been unreliable and glitchy. I spent hours trying to get it to work – I even tried to tweet Tim Cook! I was about to revert to Mavericks, but then I went back and read your review of alternatives to Mail in the September 2014 issue and decided to try Postbox. Wow! I'm a BIG fan. Takes a little getting used to but it's intuitive and, so far, has displayed none of the concerns expressed about Mail and Yosemite!

**John Bonn**

**A** Email is one of those things where everyone has their own idea about the best way to display messages and folders. I personally don't like the aesthetic of Postbox ([postbox-inc.com](http://postbox-inc.com)) as much, and I don't want to live without smart folders. But I'm delighted you've found something that works for you.



If you can't get on with Yosemite Mail, try Postbox.

## Write protecting my hard disk

**Q** I have a hard disk from an old Mac Pro that crashed. The drive was mounted as part of a RAID 0 array and at the time I assumed all the data was lost. Now I wonder if it was just the RAID controller that failed and I want to put the disk in a USB drive enclosure to see if I can read any of the data. But I'm concerned OS X may try to write something to the disk that will corrupt the RAID 0 structure. Can I make my drive read-only?

**Mark Keegan**

**A** I'm concerned that you are referring to your 'drive' as singular. RAID 0 distributes file data among two or more drives, as a way of speeding up data access. If you only have one drive from a two-drive RAID 0 set, then even if recover the data, you will only have the odd or even-numbered stripes from each file. Which effectively means you have nothing at all. For your plan to work, you will need to mount all the original drives in an enclosure that supports RAID 0. You can get these for about £70 on Amazon.

Once you have a suitable enclosure for the drives, you needn't worry about write-protecting them. If the original

problem was the RAID controller, you should be able to read them. If it wasn't, you won't. If you're really determined, there are hardware write blockers for USB devices, from about £250. But, you can achieve the same thing perfectly well in software. Eject a disk in Finder and remount it in Terminal using `mount_hfs -j -o rdonly /dev/diskx /mount/path`. But this won't prevent OS X making changes to the drive, because by that point it's already been mounted. That's because the OS will automatically try and mount any drive in read-write mode as soon as it's connected. What you need is something that intercepts OS X's auto-mounting process and mounts the disk in read-only mode first. Disk Arbitrator is a free tool that does exactly this. You can download it from [github.com/aburgh/Disk-Arbitrator](https://github.com/aburgh/Disk-Arbitrator).



Many multi-drive enclosures include hardware controllers with support for RAID 0.

## Gridlocked display

**Q** My 2011 iMac has developed a strange pattern that displays over every application window. It looks like a chessboard grid of yellow squares. If I scroll the window, the pattern moves as well and rebooting doesn't fix it. It only affects the application windows themselves – the desktop background is fine. Upgrading to Yosemite didn't help.

**Mike Doulston**

**A** Try these two tests. Take a screenshot with `⌘+⇧+3` and set that as your desktop background. Then restart with

`⌘+⇧+Z` held down, to start up in Safe mode. If the pattern appears on the desktop but doesn't show on the app windows while you are in Safe mode, it's a graphics drivers fault. Reinstalling OS X using `⌘+R` to restart in Recovery mode may help, otherwise report it to Apple. But I don't think you'll need to cross that bridge. More likely, the pattern will still be there in Safe mode. That indicates a hardware fault. If you can see the pattern on the desktop, it's a graphics card fault. If the desktop looks fine but the app windows are still messed up, it's an LCD display fault. Repairing either isn't cheap and you may want to cut your losses and get a new one or a working secondhand model.



Strange squares on your display may indicate a fault in your video RAM.



## Is the squeaking from my mouse?

**Q** My hard disk has started making occasional squeaky scraping noises – like the sound of a DVD drive ejecting, except my Mac mini doesn't have a DVD drive. Is this something to worry about? It also coincides with the appearance of the dreaded beach ball.

**Rav Sinha**

**A** Squeaky scraping noises are never good. The best case scenario is a fan with a worn bearing. The worst case is a failing hard disk and the worst case is also the most likely. The usual advice is to back up immediately and brace for impact. But this is like waiting until your car hits a patch of ice before putting on your seat belt. You should be – everyone should be – backing up with Time Machine every hour. If you haven't enabled Time Machine, this advice may come too late. If



**If you aren't using Time Machine yet, put the magazine down and go and switch it on!**

you are backed up, simply get a replacement hard disk of the same physical dimensions; 2.5 inches by 9.5mm tall (yes, it's ridiculous that metric and imperial units are mixed like this). To speed up your mini, upgrade to a solid-state drive (SSD); see [uk.crucial.com](http://uk.crucial.com) for those. Replace the drive; it will boot into internet recovery mode; download Yosemite, then restore from your Time Machine backup and the scraping noise will be silenced.

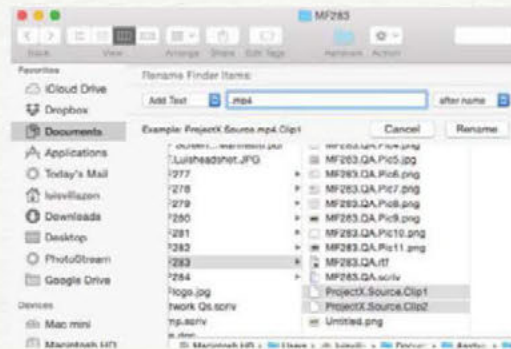
## Renaming lots of files at once

**Q** I work as a freelance video editor and frequently receive large numbers of video clips that are supposedly in .mp4 format but they don't have the file extension, so lots of apps don't recognise them. If I rename the file to add the extension myself they work fine but there are lots of them and this can take a long time. Is there a utility that will put the right extension on them for me automatically?

**Lynn Ponting**

**A** Yosemite added a handy batch file renaming function that might do what you need. Just select multiple files, right-click and choose Rename from the context menu. Change 'Replace Text' to 'Add Text' and put '.mp4' in the box next to it. This works very well for most files but it will fail for those that have full stops in the filename, such as ProjectX.Source.Clip1. Using batch rename on this will turn it into ProjectX.Source.mp4.Clip1 because Yosemite interprets the

fragment after the last full stop as the proper file extension and is trying to preserve that. For a more bulletproof solution, you'll need to use the Terminal. Type `cd` followed by a space and drag the folder containing your files from Finder to the Terminal window. This supplies the full path to the `cd` command. Press `↵` to change to that folder. Next, enter the command: `for i in *; do mv "$i" "$i.mp4"; done` to add .mp4 to the end of every filename in that folder.



**OS X Yosemite can rename files in batches with intelligent rules.**



### Tech Talk by Luis Villazon

➤ Apple showcased the Anki Drive in 2013 but it took until this Christmas for it to become a hit. This isn't a kind of hard disk. It's a racing game. Physical toy cars race around on a play mat with special guidelines painted on that only show up in infrared. You can play against your friends or on your own, using an iPhone or iPad to control the cars. The cars all have some AI built in that lets them drive by themselves or react to virtual weapons that you can fire. It's either a real-world version of the classic Sprint arcade game, or an AI version of Scalextric, depending on your point of view. It also

**£150 for a game that requires players to have an iPhone is too expensive and limited**

costs £150 for the starter system of one race track and two cars. That's £150 for a game that still requires each player to have an iPhone. I'm a huge fan of augmented reality games but this is way too expensive and way too limited.

It's a promising start though. I'd like to see a way to do away with the floor mat. Give me a special infrared marker pen that lets me draw my own track on a smooth floor. Now sell me tanks and artillery pieces, instead of just racing cars. Or pieces for a board game that can move themselves and interact with each other. In 1977 we thought that the 3D chess in *Star Wars* was the most futuristic game imaginable. But Skylanders and Anki Drive and Ingress show that physical objects are a much more convincing and immersive way to do 3D than a flickery blue hologram.

**Luis' children are too old for Lego, so he doesn't have to fight them for the hinge pieces anymore.**



## Time to be worried?

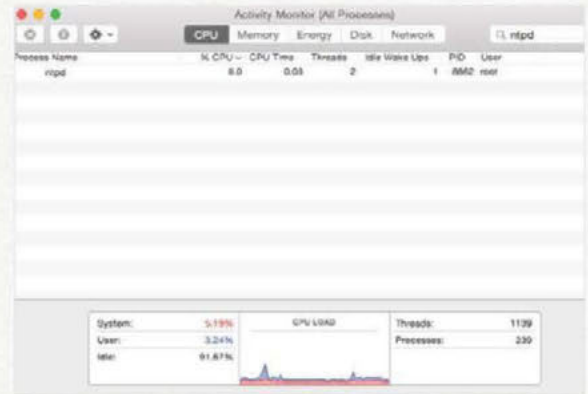
**Q** My iMac notified me it had installed a security update. I checked to see what it affected and it's something to do with Network Time. This fix is great and all, but I have an older iMac running Snow Leopard that I use for applications that need Rosetta. Is this machine vulnerable?

**Dan Renfrew**

**A** The vulnerability was in the ntpd daemon that keeps the system clock synchronised over the internet. A hacker could in theory have tricked OS X into executing some malicious

code. There aren't any known cases of anyone exploiting this bug as yet, but it's theoretically possible that any unpatched OS X machine could be affected. Apple has been able to push security patches, without waiting for you to run Software Update, since Mountain Lion, but this is the first time it has taken advantage of it.

Unfortunately there is no patch available for older versions of OS X at the time of writing. If you are concerned, you can open Date & Time preferences and untick the box marked 'Set date and time automatically'. This will unload the ntpd daemon altogether, as you can see by opening Activity Monitor and searching for ntpd.



The ntpd daemon runs whenever you have 'Set date and time automatically' ticked in System Preferences.

## Out with the old...

**Q** I have a 27-inch 2011 iMac running Lion and am about to order the new Retina iMac. Will Migration Assistant transfer over software such as Office for Mac and Parallels 9 with Windows 7? How should I erase and reset my old iMac ready for resale?

**Martin Tuck**

**A** Migration Assistant (or Setup Assistant) copies all your apps, including Office and Parallels.

Your virtual machines (which contain your Windows apps) are in the Parallels folder within Documents, so they will be painlessly copied too. Before selling, deauthorise the iMac from iTunes, sign out of iCloud, and read [support.apple.com/en-us/HT201065](http://support.apple.com/en-us/HT201065). Restart with **⌘+R** held, open Disk Utility and reformat your startup disk. Quit Disk Utility, reinstall OS X using the Recovery Disk wizard.

**Migration Assistant will transfer all your apps and documents to your new Mac seamlessly.**

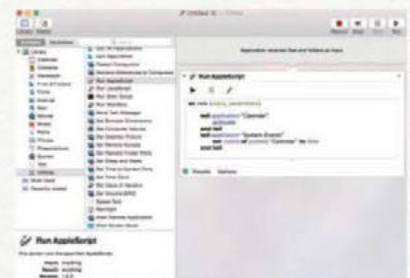


## Can my apps run in stealth mode?

**Q** I'm looking for a way to load apps when I log in to my Mac without having them displayed in the Dock – I want them to run invisibly in the background. In Login Items preferences there's a column labelled Hide, but adding an app to this and ticking the hide box appears to make no difference.

**Sam Yu**

**A** That option in Login Items is intended to remove the icon clutter from the menu bar for those little helper apps, like Dropbox and Air Display, that don't normally appear in the Dock anyway. Apps that normally display a Dock icon will still do so with the Hide option ticked. It is possible to hide the Dock icon for running apps using this Terminal command: `lsappinfo setinfo -app <appname> ApplicationType=UIElement`. Just replace <appname> with the name that appears when the pointer is over the Dock icon. This isn't always the same as the name that appears in the menu. Chrome's name is actually "Google Chrome", for example, and you'll need to surround it with quote marks because the name contains a space.



This Automator application will launch Calendar without putting it in the Dock.

Fun though this little hack is, it isn't especially useful. It only hides the Dock icon and menu for the app, not windows that are already open. And for some apps, doing anything that causes the app to gain focus can pop any hidden windows back into view. It's also not permanent.

To hide an application from the Dock automatically, create an Automator application containing this AppleScript:

```

tell application "Calendar"
    activate
end tell
tell application "System Events"
    set visible of process "Calendar" to false
end tell
    
```



## Hopping between networks

**Q** I live in a house with thick walls and poor Wi-Fi signal coverage, so I have installed two Wi-Fi points – one for the ground floor and one for upstairs. The problem is that the downstairs one is first in the list of networks and so my MacBook Pro always tries to connect to this one first. If I am upstairs and it wakes from sleep it connects to the very weak signal from downstairs, even if I was connected to the upstairs one before. Is there a way to force it to reconnect to the same network each time?

**M Fulger**

**A** Network preferences has an option in the Advanced settings that requires administrator authorisation to change networks. This will stop OS X from hopping networks automatically and will require your password whenever you try to change manually. But I think there's a much better

solution. Instead of splitting the house into several separate networks, configure the upstairs access point so that it extends the range of your network. This will tell it to rebroadcast the signal from the downstairs access point. The house now appears to have a single network that reaches everywhere. To set this up on an Airport Express, hold the reset button down until the yellow light starts blinking (this resets it) then reconfigure it in Airport Utility but choose 'Add to an existing network'.



**You can lock your Mac to a single Wi-Fi network under Advanced in its network preferences.**

## Self Service

Tweak it yourself

Here's some features you might have missed, and ways to remove some minor niggles, in OS X Yosemite and iOS 8.

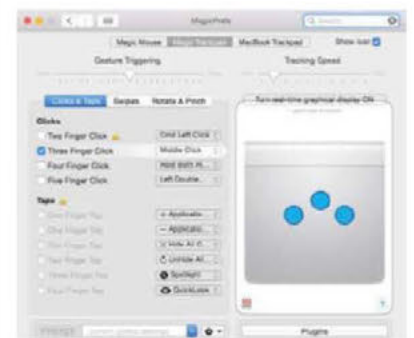
**1** If you want to prevent your iPad from receiving the same texts as your iPhone, tap Settings > Messages > Message forwarding on the iPhone. Turn off the switch next to your iPad in the list of devices there to prevent it receiving texts.

**2** If you have an external mouse with a middle button, you can close tabs in Safari by middle-clicking the tab...

**3** ... but that trick won't work on a Magic Trackpad or Magic Mouse because they don't have middle-click functions. You can configure gestures that will simulate a middle-click using the free MagicPrefs utility, which you'll find available at [magicprefs.com](http://magicprefs.com).

**4** The Markup toolbar in Preview has a squiggly icon that lets you capture your signature. Either sign with your finger or a stylus directly on your trackpad, or sign on white paper and hold it up to your Mac's camera. You can use this signature to sign PDF documents.

**5** If you don't like the Helvetica Neue font in Yosemite, you can revert to Lucida Grande using the Automator application at [github.com/schreiberstein/lucidagrandeyosemite](http://github.com/schreiberstein/lucidagrandeyosemite). This works by adding a new font file, and doesn't actually change any existing system files.



**MagicPrefs will let you simulate extra mouse buttons on a trackpad or a Magic Mouse.**

## Closing emails behind you

**Q** In Mavericks, when I replied to an email, the incoming email closed automatically once the outgoing email had been sent. Since upgrading to Yosemite, this doesn't happen and the email has to be closed manually. I have searched my settings, searched the internet and can't find a fix for this. Can you help, please?

**C Russell**

**A** I almost always read emails in the preview pane within the main Mail window, so I hadn't noticed this change, but you're quite right. Previously, the original message window closed when you hit reply. You could override this by holding Option down when you clicked reply, which led me to hope that the behaviour might have simply reversed for Yosemite, but alas not. Messages opened in their own window now remain behind until you manually close them, whether you reply to them or

not. The strangest part is that I have come across forum posts from 2012 asking if there is any way to enable such a feature in OS X. Is it possible this feature wasn't in Lion, got added in Mountain Lion or Mavericks, then was removed in Yosemite?

History aside, there's no way to re-enable this feature in Yosemite, so if you don't want to do all your replying directly from the preview pane, you'll need a different Mail client. Postbox ([postbox-inc.com](http://postbox-inc.com)), which we've already mentioned, auto closes messages when you reply, so that's two votes for it this month!



**Yosemite Mail will leave the original email open when you reply. Some like that, some don't.**





# iOSSOS

*Christian Hall fixes your iPad and iPhone problems*



## Accidentally cloned phone

**Q** I got my wife an iPhone 6 but when setting it up, I foolishly used my backup. Now whenever I receive a text, it appears on both phones!

**Andrew Mather**

**A** The carrier settings are tied to the SIM card, and you can't change the phone number just by backing it up from another phone. I think all that's happened is you have set it up for your iCloud account and her phone is receiving messages through Wi-Fi from your account while it's in range of Wi-Fi. Tap Settings > General > Reset > Erase All Content and Settings, to take the phone back to its 'out of the box' state and you can set it up again. Or let her do it this time!

## Contrary advice

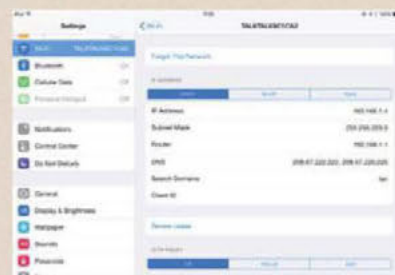
**Q** Your suggestion to change the DNS settings (January 2015), as a way of fixing slow page loads in Safari, intrigued me. I contacted my provider and they said not to do it, as it's not for the faint-hearted. They thought it could be a corrupted DNS setting on the iPad and they suggested clearing the history. I've done that, but the jury is still out.

**David Simpson**

**A** Older devices, such as the iPhone 4s and the iPad 2, use the A5 processor and only have 512MB of system RAM. Every tab consumes some of this RAM and it quickly gets to the point where tabs need to be loaded and unloaded every time you switch, which makes it feel very sluggish. Apple is still selling the non-Retina iPad mini, which is

A5-based, so even new devices aren't safe.

Switching DNS provider is by no means a complete cure, but it can help with web pages that stall part-way through loading. And it's really not as hard as your ISP is making out. Just Tap Settings > Wi-Fi and tap the 'i' next to your Wi-Fi connection. Replace the numbers in the DNS section with '208.67.222.222, 208.67.220.220', without the quotes to use OpenDNS.



**DNS settings are easy to change. But write the old numbers down somewhere, just in case.**

## Searching old calendars

**Q** My Calendar app won't find items more than about one year old on my iPhone 5 (iOS 8.1). Yet the Calendar app on my MacBook Pro will find things from 20 years ago. It's hard to believe such a search takes more computing power than in today's smartphones?

**Phil Alexandrou**

**A** Searching arbitrarily far back is clearly possible because there are third-party calendar apps that allow this. But Apple doesn't think it's worth

adding because this limitation has been around since at least iOS 4. It's probably an optimisation decision to keep the size of the index file down. Apps that can search further back all have quite slow search functions, probably because they are searching through the entire calendar database. I doubt adding this feature would earn Apple any market share if it slowed down searches for recent events. But try Calvetica (£2.29), Fantastical 2 (£3.99) or Week Calendar (free), straight replacements for Calendar that access the same events database, so there's no importing to do.

## Restoring older iPad apps

**Q** I had to factory reset my first-gen iPad and now I can't download my apps as the latest versions mostly need at least iOS 6 and I'm stuck on iOS 5.

**Jaimie Sylvano**

**A** Turn off automatic downloading of apps in Settings > Store on your iPad and then tap Purchased at the bottom of the screen. When you tap on an app, look for a download button that will retrieve the last version that is compatible with your iPad's version of iOS. Not all apps have this, but most of them do.



# Missed an issue?

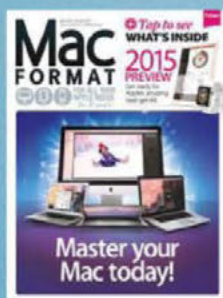
## Get it on the App Store!

Looking for a back issue? Look no further. Search for 'MacFormat' on the App Store to get our award-winning app for iPad, iPhone and iPod touch! There are lots of issues of *MacFormat* inside it, ready to be downloaded immediately. And remember, from issue 250, *MacFormat* became a fully interactive iPad app!



**Issue 283**  
February 2015

12-page guide to improving your Mac • Find the best free apps • iPhoto alternatives • Safari secrets revealed • Keep files safe in the cloud



**Issue 282**  
January 2015

Smarter ways to use your Mac and OS X • What's in store for Apple in 2015? • Organise hobby groups with your Mac • In-ear headphones group test



**Issue 281**  
Christmas 2014

53 hidden features of Apple's new OS • Expert reviews for the 5K iMac and the thinnest, fastest iPads • iOS remote-controlled toys

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Avoid the pain and frustration of losing your data, iPhone or even your Mac itself with our handy guide to protecting your precious files and gear

Words: Nick Peers Illustrations: Paul Blachford

### Tech21 Impact Snap Case for MacBooks

£59.95, [tech21.com](http://tech21.com)

**1** This slim case weighs just 270g, and is constructed from shock-absorbing material to protect against drops. Available in clear, pink, purple or black.



### Be.ez LA robe One

TBC, [amazon.co.uk](http://amazon.co.uk)

**2** In a choice of black, blue or red, this fabric slipcase comes with memory foam and a soft inner fleece to provide protection



### Speck Durafolio

£54.95, [speckproducts.com/uk](http://speckproducts.com/uk)

**3** Don't be fooled by the slim case and colours (electric blue and fuchsia pink feature); this iPad mini case offers military-grade protection for drops of up to six feet.



### Tech21 Impactology Classic Shell

£24.95, [tech21.com](http://tech21.com)

**4** Protect your iPhone 6 and iPhone 6 Plus with this case, which promises flexibility, resistance against scrapes and shock-absorbing capabilities.



### Atama Sesame 2

£39, [atama.io](http://atama.io)

**5** A key fob that connects via Bluetooth 4.0, the Sesame is designed to stay in your pocket, locking and unlocking your Mac depending on your proximity.



### Otterbox Defender for iPhone (TBC)

£39.99, [otterbox.co.uk](http://otterbox.co.uk)

**6** This tough nut offers a triple-layer case and built-in screen protector for those who want to take their iPhone on adventure with them. There's a stylish belt clip too.



# Physical security

It's not just your iPhone or iPad that can be vulnerable to theft – don't forget your MacBook or even the Mac you use in a shared workspace. One solution is to physically tie it down using a steel tether, one end of which is connected to an immovable object.

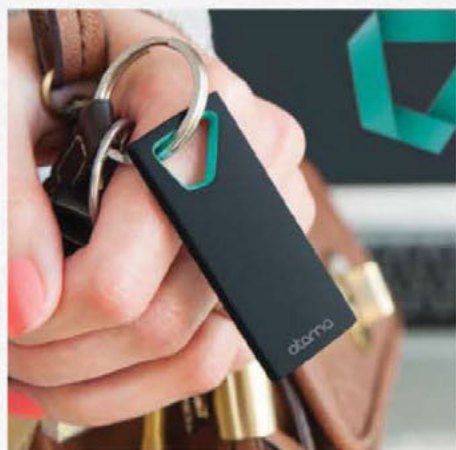
Older Macs come with a Kensington lock slot, but newer models can also be made more secure with specific add-ons: the latest Mac Pro requires a Security Lock Adapter (£40, Apple Store), for example, while iMac users should check Kensington's SafeDome (£80, kensington.com) and SafeStand (£100) solutions.

Securing your MacBook can be tricky – Kensington offers some solutions, but if you've got the latest iteration of MacBook Air, check out the Lock Bracket (£40, [maclocks.co.uk](http://maclocks.co.uk)), which clamps a wedge security slot to the base of your MacBook Air to help secure it.

There are also options for securing your mobile devices too – if you're happy to glue a plate on to the back of your iPad or iPhone, MacLocks provides a universal tablet lock for around £30 plus add-ons, which works in the same way as the traditional Kensington lock slot.



Kensington's SafeDome fits into the cabling hole in an iMac's stand and allows you to attach it to a steel cable while still passing the power cord through.



## Remote security

If you work in an office environment, you may need to lock your Mac whenever you leave your workspace for security reasons. The simplest solution that requires no effort on your part is to invest in a Sesame 2 Proximity Lock (£40, [atama.io](http://atama.io)). This little gadget can sit in your pocket or on a key fob, and when you walk away from your desk your Mac will lock automatically. When you return, your Mac unlocks, ready for you to resume where you left off.

You can also use your iPhone to both manually lock and unlock your Mac using Knock ([knocktounlock.com](http://knocktounlock.com)). You need to remember to

lock your Mac before leaving your desk – you can do this from the iPhone app as well as your Mac itself – but unlocking your Mac simply involves moving within range, waiting for a green circle to appear around your user image and double-tapping on your iPhone screen to unlock – all without your password. It's not as elegant as Sesame, but it's a lot cheaper: the Mac app is free, the iOS app will set you back just £2.99.

It's also possible to remotely lock your iPhone or iPad should you lose it without having already set up a passcode – see over the page for details on using Apple's Find My iPhone feature.

## How to insure

It's tempting to assume that any theft or damage to your precious Apple gear will be covered by your home contents insurance, but read the fine print of your policy before assuming that to be the case. You may find there are gaps – such as no protection against accidental damage, or cover that's limited to within your home only. Even where cover is specifically provided for mobile use on the road, you may find the excess is higher than the cost of the item you need to replace.

If your current home insurance policy doesn't provide enough cover, start by contacting your insurer to see if the missing cover is available, and at what cost. Then look around to see if you

can get a better deal elsewhere – banks offering paid-for 'premier' current accounts often provide an option for enhanced mobile insurance as part of your monthly fee, for example, but make sure the cover has been activated before relying on it.

You could also consider self-insuring your phone by putting away a small sum in a savings account each month to act against the cost of replacing a damaged or lost phone. Alternatively,

take out a dedicated insurance policy against each item you wish to protect. Prices start from as little as £3 a month, but check to see what's covered – extras add up, and expect to pay double for comprehensive protection.



# Recover a lost device

The realisation that you've misplaced your precious iPad, iPhone or Mac is a stomach-dropping one. Is it lost? Have you left it somewhere? Was it stolen? The first thing you need to do is identify where it is – but before you can do that, and while your precious tech is safely in your possession, it's time to make use of the 'Find my Mac/iPhone/iPad' feature built into your device. It's part of iCloud, free to use and a doddle to set up – if you were diligent, you may have already done this when first setting up your computer or mobile.

Mac users should open System Preferences and select iCloud, then simply scroll down and place a tick next to 'Find my Mac' if it's not already present, clicking Allow when

prompted. iOS users should open Settings and flick the 'Find My iPad/iPhone' switch to On. It's also worth setting Send Last Location to On, so if your iPad battery dies, you'll be able to find it even if it's switched itself off (assuming it's not moved, of course).

Switching this feature on has three benefits: first, it helps you locate your device by showing you its location on a map – it's more accurate for devices with GPS, while Wi-Fi only devices can only show you their location based on the last Wi-Fi network they were connected to. If the device is close by – say down the back of your sofa – click Play Sound to emit a loud repeating beep to help you track it down.

If you've lost a Mac, you can then either lock it remotely with a six-digit numeric passcode to protect it, or go even further and choose Erase. This will wipe all your data and settings so is a pretty drastic option. You get the same erase option with iPhones and iPads, but instead of Lock you get to put your mobile into Lost Mode, which will display a phone number and message of your choice should someone find your iOS device and switch it on. Lost Mode is switched off simply by entering your iPhone or iPad's passcode.

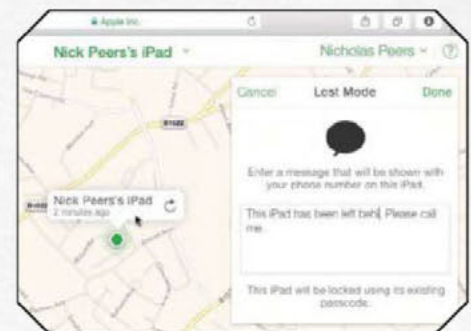
iCloud will keep you informed as to the current status of your lost device – through your web browser, but also by sending you email notifications when something changes – you play a sound, for example, or when your device exits Lost Mode (that way, if it wasn't you who entered your passcode, you can take further, more drastic action).

## Find your iPhone



### 1 Log into iCloud

Log in to [icloud.com](http://icloud.com) with your Apple ID and password on any device, then click 'Find my iPhone'. After a short pause, you should see a map showing all your connected devices. Click the one you can't find – if it's close by, click the Play Sound button to locate it.



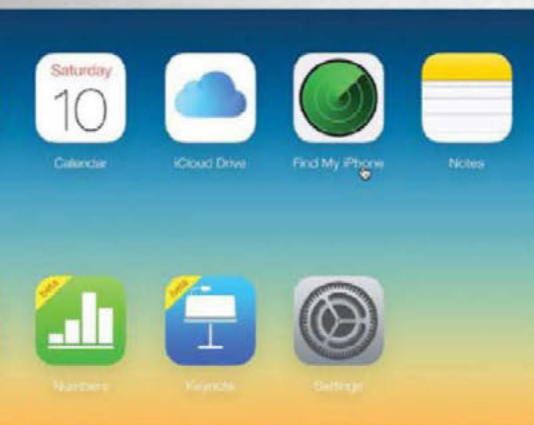
### 2 Enter Lost Mode

If you've left your iPhone or iPad in a public place and can't get to it, click Lost Mode instead. If it's not got a passcode, create one to lock it, then enter your phone number (click Use Anyway if prompted) and a short message providing your contact details.



### 3 Device returned

Anyone switching on your iPad or iPhone will then see your message. Your device will be listed in Lost Mode until its passcode is entered. If it's entered by someone other than yourself, you should consider clicking Erase iPad or Erase iPhone as a last resort.



Despite the name, iCloud's Find My iPhone feature works to help you protect and locate all your Apple devices: Macs, iPads, iPhones and even the iPod touch.

## Yosemite recovery mode

If you're struggling to start your Mac, don't panic – OS X Yosemite offers a number of different ways to boot. A full list can be found at [support.apple.com](http://support.apple.com), but here are some critical keyboard shortcuts to remember.

First, if your Mac falls over when trying to log in, hold down **⇧** as you click your username to bypass login items and Finder windows, which may be the cause of the problem. Hold the left **⇧** key when the progress indicator appears at boot to prevent automatic login.

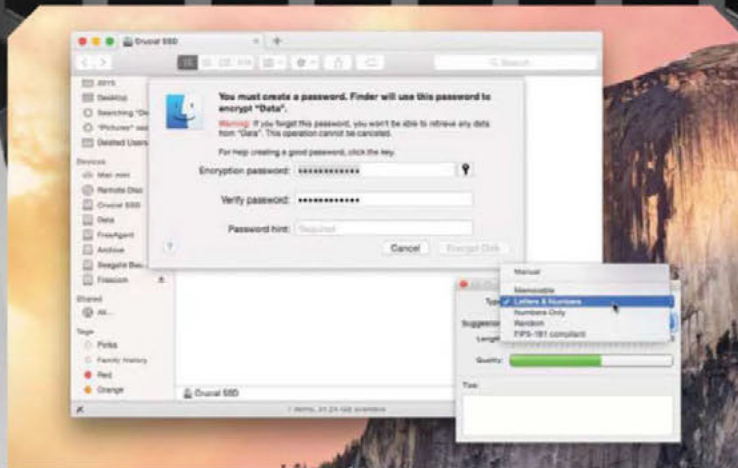
If things are more problematic, try Safe Mode – hold **⇧** as soon as you hear the startup tone, then release it when the progress indicator appears. You can open recovery tools by holding **⌘** + **R**

on startup, or press **D** for Apple Diagnostics or Apple Hardware Test.

If you're forced into recovery mode, try repairing your disks using Disk Utility, or access Terminal via the Utilities menu for a spot of advanced troubleshooting. If all else fails, consider restoring your most recent Time Machine backup.



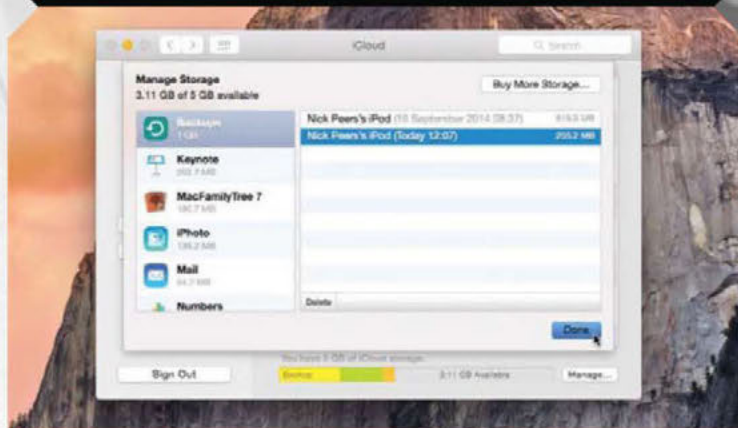




## Encrypt your data

If your device is stolen, make sure your data is protected by encrypting it. Your iPhone or iPad is automatically encrypted when you set a passcode – if it's particularly sensitive data, go to Settings > Passcode, switch off Simple Passcode and set a hard-to-guess password instead.

Protect your Mac's main system partition by going to System Preferences > Security & Privacy > FileVault and clicking Turn On FileVault if you've not already done so. Other drives can be encrypted from within Finder – right-click the drive in the Finder sidebar and choose 'Encrypt [Volume Name]...' then enter a hard-to-guess password when prompted – click the 'Key' button to generate one automatically.



## Back up online

You can restore programs, tweak settings and even reinstall your Mac or iOS device, but what you can't do is replace your precious data. What's the price on your documents, photos and other personal and professional files? Avoid the stress of data loss by making sure you're backed up – cloud-based solutions allow you to store key data remotely, protecting you in case of fire or theft. Don't automatically go down the iCloud route though – Microsoft's OneDrive offers 15GB for free, for example, while Dropbox Pro charges £7.99/month for 1TB storage space, significantly less than iCloud. However, iCloud offers more flexible pricing – 20GB extra storage costs just 79p per month.

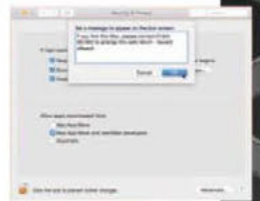
## Use a password manager

How secure are your online passwords? If they're short and easy to deduce you need to install a password manager like LastPass ([lastpass.com](http://lastpass.com)). This encourages you to create lengthy passwords that are difficult to hack and impossible to guess through its password generator tool – all you have to remember is a single master password and LastPass will automatically fill in the rest whenever you visit a website.



## Add Lost Mode to your MacBook

Protect your misplaced Mac from thieves while allowing it to be returned to you by setting up your lock screen. First, go to System Preferences > Security > Privacy > General and tick the 'Require password...' box, changing Immediately to '5 seconds'. Next, tick 'Show a message when the screen is locked' and 'Set Lock Message...' to provide your details.



## Mark your kit

If your device loses power or you're forced to wipe it remotely, how can you quickly prove that it's yours or provide people with your contact details? You could get it engraved when you first buy your iPhone or iPad, but a simpler, cheaper and less obtrusive solution is to use an UV marker pen instead – make sure you clean the surface you plan to write on before applying the pen, and after applying make sure you don't polish the part you've written on or leave it in direct sunlight.

## Back up locally

It's never a good idea to rely solely on one form of backup. For your second backup, choose a locally stored solution in the form of an external hard drive, and use Time Machine to keep your Mac backed up to it (your iOS devices can then be backed up to your Mac using iTunes in turn). £60 buys you a 2TB USB drive, but if you want to protect your household, invest £100 in the WD My Cloud drive instead – it plugs directly into your network to give everyone in your home direct access to their own backup space.



*Plain-English advice you can really trust*

# iPad Air

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# RATED



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**Bose QuietComfort 25** *p91*

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## REVIEW MANIFESTO

Our ratings explained

Our reviews are totally independent; we're not affiliated with Apple or anyone else, nor are we influenced by advertisers. You can trust us.

Prices we quote for products are correct at the time of writing and are the best we can find from a reputable online dealer, excluding delivery.

★★★★★ Rarely given; a brilliant thing that's as good as you can get in its class right now

★★★★☆ A strong recommendation to buy; any concerns are comfortably outweighed by its strengths

★★★☆☆ A good product you should consider buying, but there may be better options for you

★★★☆☆ Fundamentally flawed either in concept or execution; there are almost certainly better options for you

★★★★★ A waste of your money and everyone's time; do not buy!



Given solely at the discretion of the Editor only to truly exceptional products.



Our group test winner gets this award; it's the best of its kind at the time of writing.



# Picture perfect Wi-Fi printers





## Multifunction printers are now cheaper than ever, and can deal with a wide range of tasks

➤ Inkjet printers have had a rough ride in the last year or so. Big names such as Kodak and Lexmark have ridden off into the sunset, leaving the big three of Canon, Epson and HP to dominate the market, and there's been continued criticism of the high cost of replacement ink cartridges.

Even so, a printer is still an essential accessory for most people, and manufacturers continue to improve their products so they offer better quality and value for money.

You can now get high quality photo prints even from cheaper models costing less than £100. Running costs are starting to come down too, thanks to the use of 'high-yield' ink cartridges

that provide better value for your money. Most inkjet printers now on sale are also multifunction devices that include scanner and copier functions, along with Wi-Fi connectivity for your home network. And even though the inkjet market is dominated by just three companies, there's still a wider range of printers available than ever before.

### Three's allowed

There are three main categories of inkjet printer designed for home users. The least expensive models are

*You can now get high-quality photo prints even from models costing less than £100*

designed primarily for casual use, just printing the occasional letter, school report or photo every now and then. However, the increasing number of self-employed people and home workers means there's a growing category of home-office printers designed for people who need a reliable workhorse for everyday use.

These office printers may also include additional features such as an Ethernet interface for a wired network, an automatic document feeder for high-speed scanning, and even ye olde fax machine for people who still use them. And, in the third category, there's strong demand for more specialised printers that provide high-quality photo output.

With that in mind, we've rounded up a selection of the latest printers that will meet the needs of occasional home users, home workers and photo hobbyists alike. **Cliff Joseph**

## WIRELESS MFDs | AT A GLANCE



	Canon Pixma MG2950	Canon Pixma MG6650	Epson Expression Premium XP-620	Epson Expression Photo XP-760	HP Envy 5640	HP Officejet 5740
<b>Price</b>	£60	£140	£150	£230	£99	£129
<b>Functions</b>	Print, scan, copy	Print, scan, copy	Print, scan, copy	Print, scan, copy	Print, scan, copy	Print, scan, copy, fax
<b>Print resolution</b>	600x4800dpi	1200x4800dpi	1440x5760dpi	1400x5760dpi	1200x4800dpi	1200x4800dpi
<b>Scanner resolution</b>	600x1200dpi	1200x2400dpi	1200x2400dpi	2400x4800dpi	1200x1200dpi	1200x1200dpi
<b>Connectivity</b>	USB, Wi-fi	USB, Wi-Fi	USB, Wi-Fi	USB, Wi-Fi, Ethernet	USB, Wi-Fi	USB, Wi-Fi, Ethernet
<b>AirPrint</b>	Needs app	Built-in	Built-in	Built-in	Built-in	Built-in
<b>Print speed (actual – mono/colour)*</b>	6.5ppm/2.5ppm	12ppm/6ppm	11ppm/6ppm	6.5ppm/6ppm	9ppm/6ppm	9.5ppm/6.5ppm
<b>Print speed (actual – 4x6 photo)</b>	25s	45s	30s	30s	40s	40s
<b>Two-sided printing</b>	Manual	Auto	Auto	Auto	Auto	Auto
<b>Paper tray</b>	60 sheets A4	100 sheets A4	100 sheets A4 + 20 photo	100 sheets A4 + 20 photo	125 sheets A4 + 15 photo	125 sheets A4 + 15 photo

\*Print speeds are the actual speeds we got in our tests – not the manufacturer's quote



**1 Canon Pixma MG2950**  
£60 [canon.co.uk](http://canon.co.uk)

**2 Canon Pixma MG6650**  
£140 [canon.co.uk](http://canon.co.uk)

**3 Epson XP-620**  
£150 [epson.co.uk](http://epson.co.uk)



## TEST ONE

# FEATURES

More than just a printer

➤ All the printers reviewed here include a printer, scanner and copier, along with Wi-Fi that allows you to share the printer with other people on your network.

Even so, there are a number of key features that set these printers apart. At just £59.99, Canon's Pixma MG2950 is an affordable choice for home users, although it lacks added extras such as touchscreen controls and support for AirPrint. You'll need to step up to £100-£150 in order to find those features in rivals such as the Pixma MG6650, HP's Envy 5640, or Epson's XP-620.

If you need an Ethernet interface then HP's Officejet 5740 or the Epson XP-760 are the obvious candidates.

The OfficeJet 5740 also includes an automatic document feeder and a fax machine for just £129, making it a good choice for people who work from home. In contrast, the XP-760 puts its emphasis on photo printing, with a six-ink system that will appeal to the more serious photographer or self-employed designer.

## TEST RESULTS

Canon Pixma MG2950	★★★★★
Canon Pixma MG6650	★★★★★
Epson Expression Premium XP-620	★★★★★
Epson Expression Photo XP-760	★★★★★
HP Envy 5640	★★★★★
HP Officejet 5740	★★★★★

## TEST TWO

# MONO/TEXT PRINTING

The best results in black and white

➤ Despite its low cost, the Canon MG2950 produces very good text output, with finely detailed characters. Unfortunately, its black ink takes a few seconds to dry, and you can easily smudge documents as they feed out of the printer if you're not careful. Canon's more expensive MG6650 corrects that weakness, with pigment-based black ink that dries more quickly while still providing text quality that could give a laser printer a run for its money.

The HP Envy 5640 and Officejet 5740 also use a pigmented black ink, but the text from the Envy 5640 wasn't quite as smooth as we like. The same was also true of the Epson XP-620 and XP-760. The Officejet

5740 was the only other printer that could match the text quality of the MG6650, and both printers provide a good option for producing text-based documents. However, the Canon MG6650 still has an edge here, with a text speed of 12 pages per minute that puts it comfortably ahead of the Officejet's 9.5ppm.

## TEST RESULTS

Canon Pixma MG2950	★★★★★
Canon Pixma MG6650	★★★★★
Epson Expression Premium XP-620	★★★★★
Epson Expression Photo XP-760	★★★★★
HP Envy 5640	★★★★★
HP Officejet 5740	★★★★★

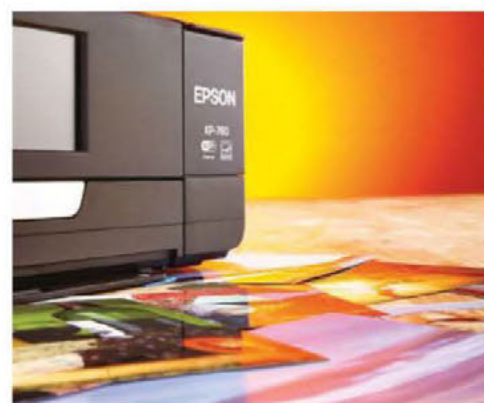
## HOW WE TESTED | PRINT SPRINT

Our first priority, of course, was to test print quality and speed. We used a text-only document in Microsoft Word to assess mono printing performance, and a PDF file containing text and graphics for general colour printing. We also printed a 4x6 postcard-size photo using high-quality glossy paper for maximum quality.

Manufacturers can be a bit optimistic when quoting speeds for their printers, so we ignored manufacturers' claims and have only printed the real-world speeds that we achieved with our own test documents.

Running costs can also be quite difficult to assess accurately. We would always recommend that you buy high-yield XL cartridges, as these provide much better value than the standard-size ink cartridges that are initially supplied with all new printers. Our cost-per-page calculations are therefore based on the page-yield – the number of pages produced using XL cartridges.

The one exception was HP, which doesn't provide XL cartridges for the two printers we review here. However, it does sell a competitively priced two-pack that contains both colour and ink cartridges together.



Manufacturers' performance figures aren't always realistic.





**4** **Epson XP-760**  
£230 [epson.co.uk](http://epson.co.uk)

**5** **HP Envy 5640**  
£99 [hp.com/uk](http://hp.com/uk)

**6** **HP Officejet 5740**  
£129 [hp.com/uk](http://hp.com/uk)



### TEST THREE

## PHOTO PRINTING

Four colours good – six colours better

Photo printing always used to be the big weakness of inkjet printers, but all those on test can produce good photo prints with fine detail and bold colours. They're pretty quick too, producing a 4x6 postcard print in less than a minute.

The prints produced by the Canon MG2950, HP Envy 5640 and Officejet 5740 were perfectly adequate for creating cards and calendars, or even presentations for work. However, they were slightly darker than their rivals and sometimes lost detail on darker areas within an image.

The Canon MG6650 and Epson XP-620 managed to bring out a little extra detail, but the Epson XP-760 was the clear winner here. The

XP-760 is a specialised photo printer that uses six different coloured inks for subtle colour graduations, especially on details such as skin tones in portraits. However, the XP-760 is also the most expensive printer in this group so you need to be serious about photography to pay for that extra quality.

### TEST RESULTS

Canon Pixma MG2950	★★★★★
Canon Pixma MG6650	★★★★★
Epson Expression Premium XP-620	★★★★★
Epson Expression Photo XP-760	★★★★★
HP Envy 5640	★★★★★
HP Officejet 5740	★★★★★

### TEST FOUR

## COST PER PAGE

Watch out for expensive ink cartridges

The Canon MG2950 is the cheapest printer here, and its colour printing is quite reasonable at 5.3p per page. However, simple text printing is expensive at a hefty 3.8p per page.

The lowest cost for text printing comes from HP's Envy 5640 and the Officejet 5740, at around 2.4p per page – although their 8.6p for colour printing is a little high for printers that only use four inks and is probably intended to steer you towards HP's 'instant ink' subscription scheme instead.

The Canon MG6650 and Epson XP-620 use five inks to enhance quality, which bumps them up to 2.8p per page for mono and about

8.5p for colour. Finally, there's the Epson XP-760, which adds a sixth ink, taking its running costs to 8.7p for colour. However, that may well be worth it if you want top quality photo prints. The XP-760 isn't too bad for mono printing either, at 2.8p. Just remember that ink costs can vary enormously online.

### TEST RESULTS

Canon Pixma MG2950	★★★★★
Canon Pixma MG6650	★★★★★
Epson Expression Premium XP-620	★★★★★
Epson Expression Photo XP-760	★★★★★
HP Envy 5640	★★★★★
HP Officejet 5740	★★★★★

## THE WINNER | CANON PIXMA MG6650

Everyone has their own requirements for a printer. A keen photographer may lean towards the high-quality photo prints of the Epson XP-760 or the Canon MG6650, while someone who works at home might prefer a workhorse such as the HP Officejet 5740, with its fax machine and low-cost text printing. And while Canon's MG2950 seems like bargain, its relatively expensive black ink cartridges will add to your running costs.

The best all-rounder – just pipping the Officejet 5740 – is Canon's MG6650. It manages to provide very good quality for text, graphics

and photo printing, along with good performance and competitive running costs that make it suitable for a wide variety of tasks.

### FINAL RESULTS

Canon Pixma MG2950	★★★★★
Canon Pixma MG6650	★★★★★
Epson Expression Premium XP-620	★★★★★
Epson Expression Photo XP-760	★★★★★
HP Envy 5640	★★★★★
HP Officejet 5740	★★★★★



# Libratone Loop

A versatile AirPlay speaker that can sit on a shelf or go up on your wall



**£349** Manufacturer Libratone, libratone.com

**Connectivity** Bluetooth 4.0, aptX, AirPlay, 3.5mm line-in, USB **Output** 120W digital amp **Dimensions** 33cmx8.3cm **Weight** 2.7kg

Libratone's Loop turned a few heads when it appeared about a year ago. Along with its attractive design and sound quality, support for AirPlay made the Loop a good choice for owners of Macs and iOS devices. However, its £400 price tag was pretty steep, and the lack of Bluetooth limited its use with other devices. This new version is still quite expensive, but Bluetooth has been added, along with support for the high-quality aptX codec.

The design of the Loop remains the same, with a distinctive saucer

shape that looks like a small satellite dish. There's a conventional stand that lets you prop the speaker up on a shelf or table, but Libratone also includes a wall mount unit so that you can hang it up on the wall of your trendy studio apartment.

The speaker measures just 33cm in diameter, but it produces a surprisingly strong sound for a relatively compact speaker. Higher frequencies have a nice zing to them, and the bass is firm enough to handle some dance tunes as well. The treble gets a bit harsh as you

**You can leave the Loop on a shelf or table, or mount it up on a wall.**

push the Loop towards maximum volume, but we found that 60% of maximum was still loud enough to fill the room with music, so you'll rarely need to go much above that.

The Loop is still fairly expensive, even at its new price of £349, but that's not bad compared to other AirPlay speakers, and the wall mount option will appeal to people who want a music system that can blend in as part of their decor. **Cliff Joseph**



*It's expensive, but the strong sound, AirPlay, and wall mount option make a versatile music system.*

- + Good quality and firm bass
- + AirPlay and Bluetooth
- + Wall mount included
- Pretty expensive

# Braven 805

Braven's outdoor speakers decide to come in out of the rain



**£180** Manufacturer Braven, braven.eu

**Connectivity** Bluetooth 2.1, 3.5mm line-in, 1x USB **Output** 2x10W **Dimensions** 24x10x7cm **Weight** 1.3kg

Braven's outdoor speakers have proven very popular, thanks to their sound quality and sturdy metal casing. The Braven 805 is a slight change of tack, as it's primarily designed for indoor use.

Available in several colours, the 805 looks almost identical to the 850 model, but it swaps aluminium for a more conventional plastic casing. That's obviously less sturdy, but it allows Braven to shave almost £80 off to reach a more affordable £180.

You can connect your devices to the Braven 805 using Bluetooth or a

3.5mm audio jack. The initial sound quality is good, although hardly exceptional for a speaker in this price range. However, the Braven 805 also includes a feature called 'SRS WOW HD' that you can use to enhance the sound. The most notable effect of this is a stronger bass that works well for dance tracks. It also creates a more expansive sound that adds a nice 'live' feel to acoustic tracks.

Other features include a built-in microphone and a speakerphone, and a rechargeable battery that lasts for up to 18 hours. You can use the

**Braven's 805 model comes with added "wow"!**

speaker's battery to top up your iPhone or iPad in an emergency.

There are less expensive speakers that provide similar sound quality, but the long battery life and other features help the Braven 805 to earn its keep. These attributes make the 805 a good option if you want a speaker that you can take on holiday or take outside for a BBQ when summer comes round again.

**Cliff Joseph**



*Long battery life and attractive sound make this a good choice around the house or in the garden.*

- + Expansive soundstage
- + Long battery life
- + Can charge your iPhone or iPad
- Premium price tag



# LaCie d2 Thunderbolt 2 with SSD Upgrade

A hard drive with scorching-hot flash storage option



**£379 (6TB drive); £229 (128GB SSD add-on)** Manufacturer LaCie, [lacie.com](http://lacie.com)

Requires OS X 10.8.5 or later

➤ This drive pairs a Thunderbolt 2 connection with a 3.5-inch hard disk that can't come close to using all of that interface's 20Gbps bandwidth. However, the drive has two such ports, so you can daisy-chain other devices or a 4K display.

The disk's sequential transfer rates are good enough, peaking at 223MB/sec and 227.2MB/sec, and averaging 186.9MB/sec and 178.7MB/sec when reading and writing, respectively. But, like any single hard disk, transfer rates are lower for the random transfer of small amounts of data.

However, LaCie offers an optional SSD upgrade, which you install as well as the 6TB drive. You buy it separately and it replaces the whole back panel with one that adds 128GB of flash storage.

LaCie refers to the upgraded d2 as a hybrid drive, but it doesn't operate like one: the SSD isn't used to cache used files from the combined storage. You get two volumes and manually pick what's stored where.

LaCie says the SSD can read data at up to 1150MB/sec. We measured its peak transfer rate as 1170.2MB/sec when reading sequentially, and its mean rate as 850.8MB/sec – 206.6MB/sec quicker than the 2014 MacBook Pro. When writing data sequentially, the SSD peaked at 926.4MB/sec, averaging 477.5MB/sec. It also held up well when randomly reading and writing small amounts of data.

As a plain hard drive, the d2 performs well enough but doesn't warrant the price tag. The SSD's speed pushes the bundle's score to three. **Alan Stonebridge**



*The basic 6TB d2 is a good drive, but pretty expensive.*

*The SSD add-on is very fast, but clunky and not cheap.*

- ⚡ Extremely fast SSD read speeds
- ⚡ Good hard drive transfer rates
- ⚡ Not a true hybrid drive
- ⚡ Limited SSD capacity

In our tests, there was no real difference in the SSD's transfer rates when both volumes were in use.



# Samsung T1 Portable SSD 1TB

So tiny and light you'll think Samsung forgot to put anything inside it

★★★★★

**£457** Manufacturer Samsung, [samsung.com/uk](http://samsung.com/uk)

**Ports** 1x USB 3.0 **Dimensions** 71x9.2x53.2mm **Weight** 30g  
**Features** 256-bit AES encryption (optional)

➤ Samsung's T1 surprised us with a design that's not just small and light but which also looks and feels good, even though its body is plastic. Its curved edges make it comfortable in the pocket too.

Samsung says the T1 can reach up to 450MB/s, but we measured its peak sequential read speed at 438.8MB/s – only 1.3MB/s slower than Angelbird's SSD2go (see MF282). However, the T1's mean

speed lags 73.4MB/s behind the SSD2go, although its 366.5MB/s is comparable to similar drives.

When writing sequentially, the T1 peaked at 394.4MB/s – 9MB/s faster than the SSD2go – though its average trails behind on 330.8MB/s, which is 48.5MB/s slower. The T1 excels, though, in the tough random transfer of small amounts of data, achieving a mean of 197.7MB/s, which is 53MB/s faster than the



The T1 is among the lightest portable SSDs, and it has one of the nicer designs.

SSD2go. The drives' mean random write speeds are near identical, with the T1 narrowly ahead on 209.7MB/s.

Samsung reckons you'll pay about £457 for the 1TB T1. If you're not in a hurry, wait and see how low retailers will push this. Otherwise, if capacity matters more than physical size, you're still better off – in price and performance – with Samsung's 1TB 840 Evo in a StarTech S2510BPU33 enclosure. **Alan Stonebridge**



*The T1 isn't quite the fastest portable SSD we've seen, but it's good if you need lots of capacity.*

- Good to excellent transfer rates
- Tiny and light
- Sensibly rounded body
- Costly per gigabyte

# G-Tech G-RAID Removable

A high-performance RAID drive with plenty of storage for desktop Macs

★★★★★

**From £320** Manufacturer G-Tech, [g-technology.com/uk](http://g-technology.com/uk)

**Capacity** 4TB, 8TB, 12TB **Connectivity** USB 3.0, FireWire 800, eSATA  
**Format** RAID 0, 1, JBOD

➤ There's nothing fancy about the G-RAID drive, but it's a good option for creative users who need plenty of reliable storage.

Designed with G-Tech's trademark aluminium chassis, the G-RAID drive is a smart, if chunky, desktop drive that requires its own power supply. Prices start at around £320 for a model with 4TB capacity (consisting of two 2TB drives), but there are 8TB and 12TB models available for £525

and £840. Those prices are higher than conventional hard drives, but the G-RAID includes a number of features that help it earn its keep.

The G-RAID is equipped with USB 3.0, eSATA and FireWire 800 interfaces, so it's a good option for owners of older Macs that still have FireWire. There's no Thunderbolt ports, but then you'd really need solid-state storage to benefit fully from the speed of Thunderbolt.

Firewire and USB 3.0 make the G-RAID a good option for both current and older Macs.



The G-RAID also provides a number of RAID options. It's formatted for RAID 0, and this provides read and write speeds of 57MB/s and 77MB/s when using the FireWire interface, and 93MB/s and 194MB/s with USB 3.0. The speed with USB 3.0 is good for a traditional hard drive, so the lack of Thunderbolt isn't a big weakness, and you can reformat the drive using RAID 1 for extra data protection. **Cliff Joseph**



*Good performance and removable drives make this a versatile storage system for your important work files.*

- Provides up to 12TB storage
- Good performance
- USB 3, FireWire 800 and eSATA
- No Thunderbolt interface



# Bose QuietComfort 25

The re-engineered noise-cancelling cans that block out the competition



**£270** Manufacturer Bose, [bose.com](http://bose.com)

**Cable length** 1.4m **Weight** 195.6g **Power** 1xAAA battery

The success of Beats headphones has forced Bose to re-invent its premium range of cans to appeal to a wider, more style-conscious consumer base.

These noise-cancelling QC25s replace its flagship QC15s and immediately feel more durable. The detachable cable is thicker, the hinges more robust and the included carry case two-thirds the size. One result is that the headband sits closer to the head, but it's easily

adjustable and retains its luxurious felt fabric for a snug, unobtrusive fit. The leather-lined earcups provide fantastically soft cushioning.

An inline mic-remote lets you take calls and change volume, while a AAA battery drives the built-in noise-cancelling technology and provides 35 hours of noise-attenuation, keeping ambient sounds and cabin drone out. In the passive mode you can listen to music with noise-cancelling switched off.

Off the shelf they come in white or black, but you can pay more for custom colours.



Which brings us to sound quality. In active mode, audio is clear, well balanced and detailed, while bass is ample yet (unlike Beats) unaffected. In passive mode however, most music feels limp and lifeless – still, we'd rather have it than not.

On this evidence, Bose easily holds its own against the threat of Beats, but if noise-isolation isn't necessary, there are better cans around for sound. **Tim Hardwick**



*Comfortable premium over-ear cans that offer very decent audio quality by noise-cancelling standards.*

- + Robust yet comfortable
- + Neat fold-away design
- + Excellent noise-cancelling
- Poor audio in passive mode

# Devolo dLAN 1200+ ac

Thought it was the end of the line for HomePlugs? Think again



**£160** Manufacturer Devolo, [devolo.com/uk](http://devolo.com/uk)

**Connectivity** 802.11ac Wi-Fi, Dual Band, 2x Gigabit Ethernet ports

If you've ever had trouble getting your devices wired up to your router or have Wi-Fi deadspots in certain rooms, you'll know all about powerline solutions.

The technology has matured to deliver theoretical 1,200Mbps speeds and this two-plug kit from Devolo goes further by adding 802.11ac Wi-Fi. This broadcasts a second Wi-Fi network (with a default Devolo SSID), but uses the router's DHCP so your devices retain their IP addresses. First

time sync between the HomePlugs is simple with Devolo's push button approach, and even when you move the second plug to a different room it syncs up, although not as fast as some products. Our tests delivered speeds around 700Mbps (dLAN 650s delivered around 500Mbps).

It's a welcome speed boost, but what really makes these HomePlugs worth the steep price is the addition of Wireless AC and the clever Wi-Fi Move feature. The latter enables

further network extension and connects your devices to the strongest available signal. It's a joy to use with the Devolo Cockpit app for Mac or iOS and it plays nicely with your existing Wi-Fi setup.

We have two minor gripes. The Wi-Fi plug is bulky and can obscure the switch on double sockets. While the otherwise welcome power-saving mode has a continuously flashing red light. **Christian Hall**

These plugs solve Wi-Fi issues and extend your network at the touch of a button.



*The Devolo dLAN 1200+ ac is a great solution to home networking woes, both wired and wireless.*

- + Near flawless performance
- + Range-extending Wi-Fi
- + Super simple setup
- Wi-Fi unit is quite bulky



## STEELSERIES STRATUS XL

★★★★★

**£60 Manufacturer** SteelSeries, [steelseries.com](http://steelseries.com)

**1** The original Stratus gamepad got mixed reviews, as it was too small for many people and cost a hefty £80. The new Stratus XL is a big improvement, providing a comfortable, full-size controller, with plenty of room for the various control buttons and two analog sticks. It uses Bluetooth to connect to your iPhone or iPad, and lasts for about 40 hours with two AA batteries. It's still pricey, at £60, but the improved design makes this a good option for iOS gamers (but you should check the list of compatible games on the SteelSeries website first). **Cliff Joseph**

**Mac** **VERDICT** *It's expensive, but the Stratus XL is more comfortable than most gamepads to use, and works with dozens of iOS games.*

## ACTIVE HOLDER AND PROCLIP

★★★★★

**£68 + £17 Manufacturer** Brodit, [brodit.com](http://brodit.com)

**2** Brodit makes a staggering array of in-car mounts for various devices, including all iPhones, iPads and iPods, and also makes various ProClips, mounting plates built for your car. Here we've opted for the Active Holder that includes a USB 'cigarette lighter' adapter and a ProClip that snaps onto the A-pillar. It's remarkably unfinessed: you screw the holder straight into the plate – there aren't even any pre-drilled holes, or guides. But there's zero wobble when driving and the ball socket keeps your iPhone locked to where you angle it. **Christopher Phin**

**Mac** **VERDICT** *It's not flashy, it's a little fiddly, but by Jobs it keeps your iPhone rock solid. It has become our favourite car mount.*

## 4-IN-1 LENS FOR iPhone 6

★★★★★

**£69 Manufacturer** Olloclip, [olloclip.com](http://olloclip.com)

**3** We've always liked the Olloclip 4-in-1 iPhone lens kits. They allow you to get amazing 10x and 15x macro shots on your phone, as well as stylish fisheye and wide angle pics. This redesigned iPhone 6/6 Plus version still takes great shots, but is a bit fiddlier to fit, and covers both the flash (often not that a big deal) and the ambient light sensor, meaning the screen darkens, playing havoc with your exposure adjustments. You can turn auto-brightness off, but it's not ideal. We still recommend this, but it's lost some of its lustre here. **Matt Bolton**

**Mac** **VERDICT** *Still a great package for taking macro and wide-angle pictures on your iPhone, but there are a few frustrations with this version.*

## ONEFORALL SMARTZAPPER

★★★★★

**£35 Manufacturer** OneForAll, [oneforall.co.uk](http://oneforall.co.uk)

**4** The SmartZapper turns your iPhone or iPad into a universal remote control that can control your TV, set-top box and other devices all at once. Just tell the SmartZapper app what type of TV and other devices you are using, and the app uses Bluetooth to connect to a little plastic transmitter that sends out control signals just like an ordinary remote control. It's hardly an essential accessory, but it's kind of fun to control your TV from your iPhone or iPad, and at £34.99 the SmartZapper is one of the cheapest universal controls available for iOS devices. **Cliff Joseph**

**Mac** **VERDICT** *Slightly gimmicky, but the SmartZapper works well and is an affordable alternative to a conventional remote control.*



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# Logic Pro X 10.1

Pro-level music powerhouse embraces eclecticism

★★★★★

**£149.99** Developer Apple, apple.com

**OS** OS X 10.9 or later **Requires** 64-bit processor, 4GB RAM



Apple's professional music package is a familiar site in commercial recording

studios and on arena stages. It offers multi-track recording, great MIDI features, effortless loop-based music creation and stacks of virtual instruments. With the Logic Pro X release it gained tools for fixing timing and tuning, a vastly improved interface, better MIDI handling and the excellent Drummer, which allows incredibly realistic 'live' drumming.

Previously, the drummers were fine if you wanted to make rock, folk, country or metal – not if you wanted to make dubstep, EDM or hip-hop.

**We love Drummer's live-sounding drums, and with this release it gets electronic kits and beats too.**

Spot Erase features make it much easier to edit MIDI drum patterns without having to painstakingly adjust individual beats or notes. Piano Roll has been tweaked to

producers, though. There are more than 200 new synth sounds and a brand new instrument, the Mellotron. There's a new Smart Quantize feature that can fix your



## She's electric

With Logic Pro X 10.1 Apple has made the program more useful to electronic music makers. It has also fixed some bugs and introduced really useful features for musicians and producers, in an update that's free to existing Logic Pro X users.

The most obvious new feature is the addition of 10 new electronic and hip-hop drummers that make beat-making much easier. You can stick with the presets or fine-tune the drum machines to your exact requirements, via Drum Machine Designer. The new Note Repeat and

*The latest Logic is incredible value – for money for acoustic, electric and electronic artists alike*

make it more drum-friendly: the new Brush Tool enables you to create a series of notes with mouse or trackpad gestures and the new Time Handle feature allows you to expand or compress MIDI. You can now slow down a pattern without changing how it's played.

The 10.1 update isn't just for electronic and hip-hop artists and

timing without removing deliberate flourishes such as piano figures or drum fills. You can automate regions instead of entire tracks and move the automation data when you move the region or regions. There's a redesigned Compressor plug-in. The Plug-In Manager is now customisable and there's support for AirDrop in Yosemite for sharing projects with other Macs.

With Logic Pro X 10.1 Apple has pulled off a difficult trick: the program is user-friendly enough that coming to it from GarageBand is no longer terrifying, but while the face is friendly Logic Pro is a very powerful pro-level digital audio workstation with an exceptionally low price. Where previous versions were among the most expensive music packages you could buy version 10.1 delivers incredible value for money for acoustic, electric and electronic artists alike. **Gary Marshall**



Logic looks like GarageBand these days. It's deliberate: it helps upgraders feel at home.

## TEAM TALK



Even though I've long given up on the idea of earning a record contract (because my music's awful, says my beloved wife), I still love to tinker about, playing at being a superstar DJ or big-shot producer.



**Great new features, superb new sounds and better ways of doing things, at a great price: it's a must-have upgrade.**

- 1 Drummer does electronic well
- 2 Time Handles, Smart Quantising
- 3 New synths and Mellotrons too
- 4 Useful editing improvements



# iScrapbook 5

Create amazing photo albums  
(if you have the latest OS X)



**\$49.99 (about £33; single user), \$89.99 (£60; family pack)**

**Developer** Chronos, [chronosnet.com](http://chronosnet.com)

**OS** OS X 10.10 or later **Requires** 400MB disk space



While some are content to carry thousands of digital images on mobile

devices, there is still a contingent of loyal Mac users who fancy the notion of preserving memories in hardcopy for future generations to enjoy. With the fifth edition of its popular scrapbook application, Chronos appeals to both camps.

iScrapbook 5 assists users in creating digital scrapbook albums in single or dual page spreads. Individual pages or entire albums can be printed on paper or exported to PDF, TIFF, JPEG or PNG files. With more than 15 new feature categories, including texture, glass and simulated old film overlays, this version creates pages that look more authentic. Shine on imported photos comes thanks to one-click auto enhancement, while 3D headlines help modernise albums, with complete control over lighting, bevel and reflections.

The clean, easy-to-use layout tools haven't changed much, with the exception of a revamped Browser

**Getting started with iScrapbook 5 is easy, thanks to the assortment of professionally made templates, with more available for buy online.**

and Layer views on the right. The former contains tabs for Shapes, Artwork, Photos, Text and Favorites, which include elements that can be dragged onto the canvas, such as

*Seizing on the photo-filter trend popularised by Instagram, iScrapbook 5 includes numerous processing effects*

self-contained iScrapKits available for purchase online. (The app includes a few to get started, along with downloadable freebies to cut down on application size.)

Seizing on the photo-filter trend popularised by Instagram, iScrapbook 5 includes numerous effects, including vintage, vibrance and line art looks. Others, such as

sunburst, sparkle and 13 different water stains, can be dragged onto elements for a more realistic appearance. Applying effects was snappy on our mid-2012 MacBook Pro with Retina display. Texture overlays add heightened realism to pages, which can be created in standard 12x12-inch scrapbook, letter, A4, or most custom sizes.

## The downside

But this visual wizardry comes with a downside: iScrapbook 5 requires OS X 10.10 or later, leaving some Mac owners stranded on a less-glitz previous version. In a sign of the times, Chronos has adopted OS X extension support for sharing pages via Mail, Messages or social networks. Although trackpad gestures still get no love – zooming in or out of pages requires the on-screen slider. **JR Bookwalter**



## TEAM TALK



**We're swamped with photos nowadays and it's easy to forget to do anything worthwhile with them. Digital albums are a lovely way to record memories – sorting wheat from chaff – and iScrapbook 5 is superb for this.**



**iScrapbook 5 includes a rich set of typography tools, including all-new 3D headlines.**



**iScrapbook 5 retains its status as the top scrapbooking app, but leaves owners of older Macs in the dust.**

- Inexpensive, with rich set of tools
- Texture overlays and effects
- Requires OS X Yosemite
- Can't drag-and-drop objects

# Painter Essentials 5

Fun, affordable art app that converts photos into paintings and sketches



**£29.99 Developer** Corel, painterartist.com

**OS** OS X 10.9 or later **Requires** 500MB hard disk, mouse or tablet



We were impressed by the natural media painting tools in the recently released

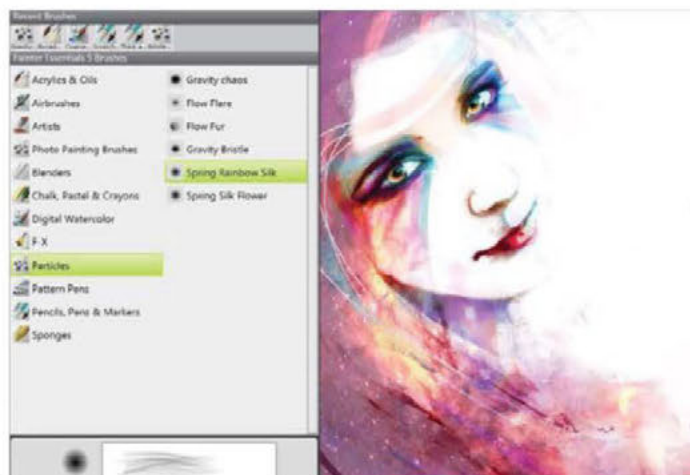
Painter 2015, but at over £300 Painter is far too expensive for most people. Painter Essentials 5 is not only cheaper (£29.99), but has a simpler, more streamlined (although somewhat dated) interface that is easier for newcomers.

To help you out, the welcome screen in Painter Essentials 5 offers two different modes for creating your artwork. Beginners can start with the automatic Photo Art mode,

which allows you to import a photo and then sit back while the program paints over it using a variety of different brush styles, such as watercolours, oil paints or pencils.

Experienced users can create their own artwork in Drawing And Painting mode. This provides dozens of different brush and pencil styles, including a Mirror mode that reflects your strokes like a mirror image.

Not surprisingly, Painter Essentials has fewer features than its big brother – 106 brushes, compared to 800. But that still gives amateur artists plenty of scope to experiment,



**The Painter Essentials app impresses by making your photos look like hand-drawn sketches or paintings.**

while features such as the Photo Art mode mean that you don't need to be a skilled artist to get started.

Make sure you buy Painter Essentials – or download the trial version – from Corel's website, rather than buying the outdated Painter Lite on the App Store. **Cliff Joseph**



*At just £29.99 Painter Essentials is a powerful and fun graphics tool for amateur artists.*

- Automatic Photo Art mode
- Over 100 freehand brushes
- Much cheaper than full Painter
- Freehand mode could be better

# DiskWarrior 5



Three years from the last update, is it really worth the wait?



**\$119.95 (about £80), \$59.95 upgrade (about £40)**

**Developer** Alsoft, alsoft.com

**OS** OS X 10.5.8 or later **Requires** 1GB RAM, USB port



DiskWarrior 5 is the latest release of a revered Mac utility dating back to the late

'90s. The software repairs and rebuilds damaged disk directories, the roadmap computers use to find files and folders scattered across all of those platters. Optimised, error-free directories provide faster file access, fewer spinning beach balls and a more pleasant experience.

Three years after the last major release, DW5 features a streamlined UI and finally delivers 64-bit support, which enables tackling the larger

disk directories found on more voluminous modern drives. A new Directory Optimization Index provides a visual graph of disk efficiency even before clicking the Rebuild button.

Version 5.0 ships on a bootable USB flash drive instead of CD or DVD, which makes sense but may be a minor nuisance for upgraders. But that's where the bad news ends.

The thumb drive is capable of repairing the startup disk of Intel-based Macs that originally shipped with OS X 10.4 through 10.6, and can be upgraded for OS X 10.7 and



**Helpfully, DiskWarrior 5 now shows a Directory Optimization Index that displays information about what condition the selected drive is in before rebuilding.**

later using the included DiskWarrior Recovery Maker.

Alsoft claims rebuilds are now twice as fast, and we noticed an immediate and real performance difference in our tests with a mid-2004 Power Mac G5, mid-2007 Mac mini and mid-2012 MacBook Pro with Retina Display. DW5 also feels more stable compared to earlier versions that would often consume excessive CPU time and occasionally even crash. **JR Bookwalter**



*DiskWarrior 5 remains a must-have disk utility, and is more flexible than ever on a USB thumb drive.*

- Still the best disk utility around
- Now has 64-bit support
- Ships on bootable flash drive...
- ...but that may annoy some



## SNAPSELECT

Only import your best photos

★★★★★

**£10.99 Developer** Macphun Software, macphun.com

**OS** OS X 10.9 or later **Requires** 8GB RAM



Storage may be cheap, but modern DSLRs can blaze away at

speeds in excess of 10fps and this can lead to a great many similar, if not identical, images.

Snapselect offers image recognition that can run while importing pictures from your camera as well as on existing Aperture or Lightroom libraries or folders on a hard drive.

The app will group your images by capture time into similar and identical piles, and can take some time to do this depending on your CPU and the number of images. We didn't see it make a mistake, but

it's up to you to check through them and export the best to a working folder. You can share directly to social media too.

Many photographers will delete poor images on the camera or when importing to their Mac, so this app may be a solution in search of a problem. But there's some great technology at work here, and it may be handy for those who pray and spray. **Ian Evenden**



*This is a useful app for those who take a lot of similar shots, and the image recognition works a treat.*

## TREE 2.0.1

Lightweight outliner of choice

★★★★★

**\$9.99 (about £6.50) Developer** Kazuhiro Kawana, topoftree.jp

**OS** OS X 10.9 or later **Requires** 64-bit processor



This lightweight outline tool can tackle plain or rich text from various

formats including OPML and Word, and allows tree views to be expanded vertically or horizontally. Version 2.0.1 retains what's already great, including a minimalist UI and multi-document access from Safari-style tabs – you can now add new tabs with a double-click on the tab bar or by using the '+' button. The adjacent button makes it easy to move a selected family into a new tab.

Tree rewards users who learn keyboard shortcuts and this version adds support for

applying colour labels without taking your fingers off the keys.

The software is now 64-bit native and features shiny new icons. These features may not be worthy enough for existing users to pay for a new version, but the asking price is fair.

Our only gripe is the lack of formatting options when exporting to PDF, which can spread horizontal views across multiple pages. **JR Bookwalter**

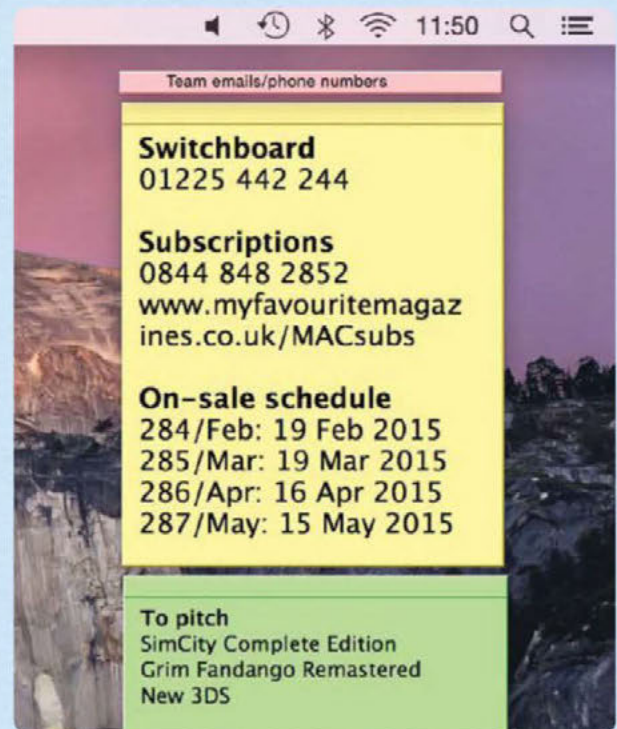


*Tree 2.0.1 may be a modest feature update, but it's still the best Mac application for creating outlines.*

**We're still loving...**

## STICKIES

It's digital magic rather than epoxy resin that keeps Seth's notes in sight



You might wonder why I would use Stickies when the newer Notes app, which also comes with OS X, has the advantage of syncing things between Macs and iOS devices using iCloud. But Stickies' simplicity is precisely its appeal. I use it to keep task reminders and short notes isolated in the place where I'll need to deal with them, contributing a little to my work/life balance.

Rather than feeling overwhelmed when I check my calendar, reminders and notes, only the major events of the next few days come to my attention. To ensure things on sticky notes aren't forgotten, I have the app set to Open at Login, and the most important notes are sat as floating windows (via the Note menu) so they don't disappear behind others.

Each note's location on the desktop is remembered. I keep a few of them open in a space alongside Reminders and Notes on my MacBook, and in a column at the side of the desktop on a large display. Each note can be assigned one of six colours to aid with finding what I need, and text can be given rich formatting. But just like their real-life counterparts, it's wise to exercise some restraint in how many Stickies you keep around.

# WALTR for Mac

Bypassing iTunes – the best way to sync media to an iOS device

★★★★★

**£23.95 Developer** Softorino, softorino.com

**OS** OS X 10.9 or later **Requires** iPhone, iPod touch, iPad



iTunes is infamous for rigid adherence to MP3/AAC and MP4 formats for audio and video, but a new Mac application called WALTR has managed to find a way to circumvent those restrictions, allowing unsupported files to be easily added to the native Music or Videos apps without conversion, jailbreaking, or other tomfoolery.

The software is a model of simplicity: launch WALTR without iTunes running, plug in any currently supported iOS device, then drag-and-drop one or more files onto the

unobtrusive window. After roughly 30 seconds of processing, files will be copied to the device (a 750MB AVI movie took about 45 seconds), ready for playback alongside previously synced media or iTunes in the Cloud media.

Although WALTR works well for bypassing the archaic iTunes sync, the real magic is how the software deftly makes unsupported formats – MKV, AVI, FLAC, APE, WMA and OGG among them – work without the need for conversion software.

Users will want to pay close attention to file names and artwork



**Is that all there is? With WALTR, there's no muss, no fuss, and no iTunes required to get your media across to an iOS device.**

restrictions though – WALTR will use the first image found inside a folder for a thumbnail. The workaround is to temporarily create new folders for each album or video with only those media file(s) and image. Softorino is working on a more permanent solution. **JR Bookwalter**



*The most user-friendly method we've seen for syncing music and videos to iPhones and iPads.*

- ➕ iTunes-free syncing
- ➕ Sync from unsupported formats
- ➕ Fast, effortless, intuitive
- ➖ No Wi-Fi sync support

# Typed 1.0

Yet another minimal text editor, though this one's offering Zen...

★★★★★

**£18.99 Developer** Realmac, realmacsoftware.com/typed

**OS** OS X 10.9 or later **Requires** speakers/headphones if using soundtracks

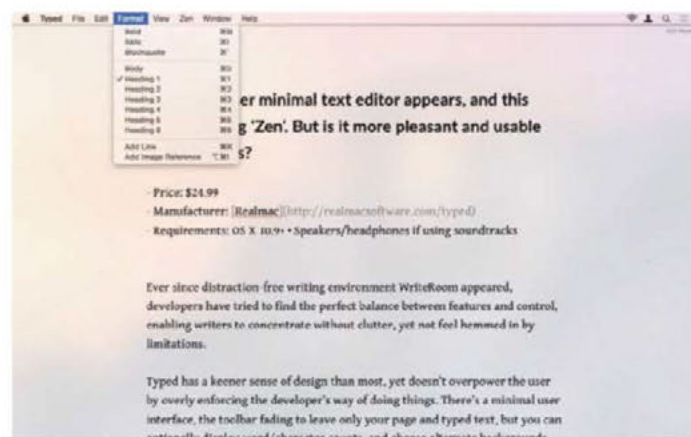


Ever since distraction-free writing environment WriteRoom appeared, developers have tried to find the perfect balance between features and control, enabling writers to concentrate without clutter, yet not feel hemmed in by limitations.

Typed has a keen sense of design, yet doesn't overpower. There's a minimal user interface, but you can display word/character counts, choose backgrounds and typefaces. For writing, markdown support and associated keyboard shortcuts make

structuring documents a breeze. We thought we'd hate Zen mode, designed to boost concentration and focus with a fullscreen window and soundtracks. But the bundled soundtracks are mostly very pleasant, drowning out background noise without being distracting.

So Typed is good, but is it better than its main rivals? That's tougher to answer. Byword costs half as much, is superior for adding markdown elements (such as links), has a typewriter mode, paragraph focus, publishing to blog services as an add-on, and more flexible fonts.



**To improve your workflow, it's best to remove distractions and Typed offers a very clean and focused interface.**

But Typed has a superior find-and-replace, nicer (if more limited in choice) typography, and handy way of exporting selected text to HTML rather than an entire document.

So it's a dead heat between Typed and Byword, and Typed's twee yet endearing addition of inspirational quotes to blank documents nudges it just ahead. **Craig Grannell**



*Typed manages to fuse minimalism and usability, with some character too. We liked it the more we used it.*

- ➕ Minimal writing environment
- ➕ Good customisation
- ➕ Pleasant character
- ➖ Niggles with HTML export



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SQUARE ENIX

CRYSTAL DYNAMICS





# The Talos Principle

The ancient Greeks didn't have Macs, iPhones, lasers or proximity mines

★★★★★

**£29.99 Developer** Croteam, croteam.com

**OS** OS X 10.5.8 or later **Requires** 2.2GHz Core 2 Duo, 2GB RAM, 512MB graphics card



The ancient Greeks wandered the countryside and pondered the meaning of life. As you wander the beautiful islands of The Talos Principle, you'll wonder the same thing – it's as much a philosophical mystery as a puzzle game.

Your avatar awakens to the voice of Elohim, a program-deity instructing you to use jammers, laser-focusing prisms, hexahedrons, and your brain to collect sigils. You'll think inside and outside the literal puzzle boxes: problems are self-

contained, but extra challenges require you to break the rules and traverse multiple rooms. You'll visit Greek, Egyptian and Medieval zones: it's a bit like The Crystal Maze, except you're solving the puzzles yourself instead of shouting at others.

The Talos Principle asks: what does it mean to be alive? What is the nature of free will? You can attempt most sigils at your whim, and there's a steady increase in complexity. You can't save in the middle of puzzles, and some are fairly long, but most rely on involved problem-solving rather than sheer dexterity.



**The game's environments beautifully juxtapose classical architecture with more futuristic objects.**

The story itself is a puzzle, told through terminals and messages from the ghosts of androids past. Are these sentient programs vestiges of humanity, or another test from Elohim? Dare you climb that forbidden tower? These questions stay with you as you track down the sigils, and you'll want every last one of them. **Alan Williamson**



*For a game about puzzle-solving androids, The Talos Principle has an abundance of humanity.*

- Intriguing philosophical story
- Challenging, not frustrating
- Stunning locations and music
- Can't save during puzzles

# This War of Mine

This war is not about winning, it's merely about surviving

★★★★★

**£14.99 Developer** 11 bit studios, 11bitstudios.com

**OS** OS X 10.6 or later **Requires** 2.4GHz Core 2 Duo, 2GB RAM, 512MB graphics card



This War of Mine is a survival simulator about guiding weary citizens through the rubble of their city. A few times per week, Franko comes to your camp to trade: five cigarettes is the going rate for a can of food in occupied Porogen. Vegetables are pricey – moonshine or jewellery – but they're also more nutritious of course.

During the day, survivors purify water, pack homemade bullets and tend paltry gardens. At night, one person goes 'scavenging', gathering

supplies from ruined hospitals and supermarkets, using basic stealth and combat to avoid or fend off other desperate refugees.

What you find at night affects how much you accomplish each day, keeping tension high. Randomised variables can dictate play: it's easier to live through spring than winter, the value of tobacco skyrockets, a neighbour asks for help.

Resources are scarce and the game's mechanics are stifling. You're only allowed to search one location per night, even with several hours



**The red circles could be identifying rats, traders, or hostile guards. So go carefully on your night-time scavenging.**

left before the curfew. This rigidity elevates the mundane – finding meat is a high point – but blunts the moral drama: stealing to survive isn't a dilemma if it's the only option.

Still, even when tactical play seems impossible, it evinces desperation and futility. You never experience war directly, but you learn Bruno, Franko, Katia and Pavle are collateral damage. **Joseph Leray**



*A game that engenders empathy through the constancy, immediacy, and volume of its choices.*

- Play feels fresh
- Writing and music build tension
- High difficulty is draining
- Combat is unclear



**We're still playing...**

# HOPLITE

**A forgotten strategy gem, and one that keeps Christian up for hours and hours**

The iPhone, especially in portrait mode, is just perfect for board-based strategy games, particularly of the hex type. There are countless examples on the App Store but few have kept me coming back as much as Hoplite, which surfaced in late 2013. I say 'surfaced' because that's kind of where you start. The idea here is that your pixel Spartan warrior has to go on a quest for the Golden Fleece, descending deeper and deeper into the underworld.

It's very much in the dungeon-crawler mould (like Rogue), and you have a few skills and weapons to defeat enemies as you try to get to the next set of stairs to work your way down the levels. You can only move one hex tile at a time, unless you use energy to leap further. With a spear and your bash ability you rid the level of enemies and make your getaway. But the turn-based tile-hopping never feels slow, enemies advance on you, the difficulty ramps up very quickly and, like a game of chess, you'll be left pondering your next move for longer and longer periods.

It's all about balancing the risk of attacking your enemies (who of course have varying abilities too) and getting to the altars to 'pray' and get upgrades to your own abilities, from spear throwing distance to healing and bash effectiveness. More powerful upgrades require a sacrifice in the form of health, so the trade-offs continue as you become more powerful. It's all classic dungeon fun on your mobile.

## PROUN+

A journey through modern art

★★★★★

**£2.99 Developer** Engine Software, engine-software.com**Works with** iPhone, iPod touch, iPad **Version** 1.0 **Age** 4+

Inspired by the art of Mondrian and Kandinsky, Proun+ is like a breakneck dash through the synapses of a painter's brain. It is an explosion of colour as you wrestle a ball along tube-like rollercoasters covered in colourful barriers that stop you dead. Spin around the tube, avoid obstacles and finish in the top three to unlock a new track or challenge. Open up all of a level's tracks and you can do it all over again – only faster.

Proun+ can be dizzying, and it can frustrate until you understand a track's layout, or

if you get stuck on a survival race (one hit and it's game over). But tracks with point gates and races against five other balls are fun. You can't collide with them, but they can hit obstacles, which they do – often. It's great to feel the game even has it in for your opponents as you shoot along in a vibrant and imaginative world.

**Craig Grannell**

*An entertaining, if tricky, high-speed racer with plenty of content and a decidedly artistic bent.*

## POLYFORM

Colour-matching fun in 3D

★★★★★

**£2.29 Developer** DeNA Co, manicgamestudios.com**Works with** iPhone, iPod touch, iPad **Version** 1.0 **Age** 4+

Mix a standard colour-matching block game with a Rubik's cube and you get Polyform. There's a 3D shape made up of cubes of different colours, which you can view from all angles. You drop more cubes on the shape, and if you connect four or more cubes of the same colour, they vanish. Clear the whole thing as quick as you can! Simple. You can play just by spamming cubes of the same colour, but the game rewards you for building up to eliminate, say, seven or eight in one go instead of just four. Neither

approach is explicitly correct, so it means the game can be as complex as you make it. Special cube types (such as protected armour cubes) add more strategy later.

We really like Polyform, but it could be even better. Correctly placing a block can be fiddly, and time limits irked us – it's more fun to play in a zen-like way, aiming for the biggest combos. **Matt Bolton**



*A simple and fun puzzle game, with some frustrating elements that could be improved upon.*



Filters are applied with a tap but, unlike Instagram, their effects can be adjusted.

# Rebelsauce

Emulate analogue photos on iPhone

★★★★★

**79p Developer** Last Automaton App Supply, rebelsauce.com

**Works with** iPhone, iPod touch **Version** 1.0 **Age** 4+



Rebelsauce's film-style presets for Lightroom on the Mac have come to the iPhone to give your crisp digital shots a bit of life and character. The 79p app includes 36 filters, additional packs of between 10 and 15 are 79p a pop, and the full collection is £4.49.

Filters are applied with a single tap, making an immediate and often marked difference to your image. You're not restricted to presets, though – more tailored edits provide control over grain, contrast, colour fading for an aged finish, rotation and more. Each adjustment is applied frame-wide, so everything is

kept in proportion. We heartily approve of this approach, for the most part, but it means you can't brighten up a dark corner, say, without affecting the rest of the shot.

Edited snaps can be saved back to the Camera Roll, shared on Flickr, Facebook, Twitter, Instagram and Tumblr, sent directly to people via iOS's built-in methods, or copied into various other apps. **Nik Rawlinson**



*Inexpensive and more flexible than Instagram, Rebelsauce makes it quick and easy to add character to your photos.*

# SNIPBOARD

Quickly type snippets of text

★★★★★

**Free Developer** Hipolabs, hipolabs.com/snipboard

**Works with** iPhone, iPod touch, iPad

**Version** 1.0 **Age** 4+



We've looked at several keyboard apps for iOS 8, but Snipboard is one that merely modifies the standard iOS keyboard so that you can quickly type out frequently-used 'snippets' of text, such as your email or postal address.

Just launch Snipboard and you are prompted to type in the snippets that you want to store. When you're typing in other apps you can tap the globe symbol on the standard keyboard to activate Snipboard, and you'll see all your snippets displayed on

screen, ready to be inserted with a tap of your finger.

Some rival apps, such as TextExpander, are arguably more efficient, but Snipboard works well if you just need to store a few key snippets of text. It's free too, so there's no problem with trying it out to see if it saves you some time when typing emails and messages. **Cliff Joseph**



*It's a bit basic, but this free app can save you time typing out frequently-used bits of text.*

# 1WRITER

Minimalism that draws the eye

★★★★★

**£2.29 Developer** Ngoc Luu, 1writerapp.com

**Works with** iPhone, iPod touch, iPad **Version** 2.0 **Age** 17+



1Writer stands out among the distraction-free Markdown/text editors on the App Store. The basics are all here, but 1Writer goes further than most. It is visually stripped back, but it has theme options, a dark mode and enables line height and font size changes.

You can link documents in local searches using hashtags. There's also a Today view widget to get at recent edits.

The really clever feature is JavaScript actions that extend the app. On adding an action you can manipulate text, jump to document sections,

and send content to a service, all with one tap. More than 30 actions are available, and you can write your own.

The app rarely stumbles, but there are two doozies. Misspellings are flagged with a strikethrough but ignored if you continue typing. The extra keyboard items feel arbitrarily grouped, and the bar uses too much space.

**Craig Grannell**



*1Writer is a smartly-designed Markdown editor and note taker, with a few snags but lots to like.*



Building an app is as simple as arranging the requisite steps in the correct order in a workflow.



# Workflow

Build time-saving iOS applications

★★★★★

**£2.49 Developer** DeskConnect, deskconnect.com

**Works with** iPhone, iPod touch, iPad **Version** 1.0.1 **Age** 4+



Workflow allows you to lace together a series of common 'actions', like taking a picture or looking up songs, and process the results to create meaningful output. Each action's already built, so you just drag it from the pre-installed library into a workflow. By default, it will take the output of an action that appears above as its input, and send its output to the following action. In less than two minutes we dragged in three actions that determined our location, grabbed the image for that spot from Google Street View and tweeted it. We saved the process on the Home screen as an app called Street Shot, with its own icon. Now,

to show where we are, we just tap the icon – no need to look up our location, grab the screen, crop the image and paste it into a message.

You can also save workflows as plug-ins for existing apps, such as Safari, Pages or Photos, courtesy of the iOS share sheet. Tapping the Workflow button from inside an app drops you into the Workflow environment where you can select the routine you want. So, if you want to share text on a web page, you can create a workflow then access it through the share sheet, rather than manually copying and pasting the page's contents into a blank email.

Workflow has over 150 actions built in, ranging from the mundane

– such as looking up contacts – to complex routines like looping shots to create an animated GIF. They're grouped according to app or function, such as Maps, documents or scripting, and can work with third-party tools like Dropbox and Drafts. Workflow even suggests the most appropriate action for handling output from earlier steps, while safeguards limit access to core iOS and hardware components.

Workflow is one of the most exciting developments in many years where iOS is concerned, and we're genuinely surprised that Apple didn't come up with it first. We can't wait to see how it develops, with the creators already working on synchronisation between iOS devices, the ability to run workflows at set times and integration of a wider range of third-party tools.

**Nik Rawlinson**

## TEAM TALK



I'm not a big fan of scripting – too time consuming itself! So to be able to automate iOS routines as easily as this, and at this low launch price, means that Workflow is a must-have for me.



*This is one of the easiest and most effective ways to save time on your iPhone and iPad.*

- Doesn't require any coding
- Very easy and quick to use
- Plugs into common iOS apps
- Broad range of available actions



*5 of the best...*

# iPad finance apps

Which app will best help you control your finances?

## HOME BUDGET WITH SYNC

★★★★★

£3.99 Developer Anishu, anishu.com

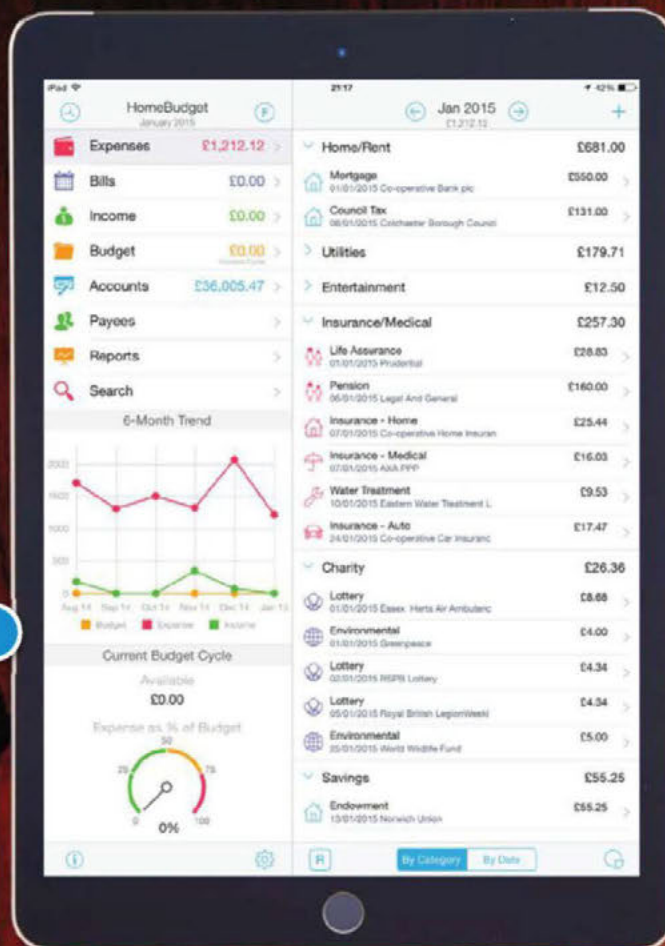
1 HomeBudget sets the benchmark for functionality, wrapping up all the core stuff (multiple accounts, bills, budgets, reports and so on) in a user-friendly, navi interface. Importing data from other apps is relatively straightforward thanks to OFX and QFX format support, and Family Sync support – if a bit fiddly to implement – allows you to stay in sync across other platforms too, including Mac and Windows. Backup via Dropbox and Wi-Fi is also available, as is downloading statements from banks.

## MONEYWIZ 2

★★★★★

£3.99 Developer SilverWiz, moneywizapp.com

2 MoneyWiz offers practically identikit functionality to HomeBudget, but edges it thanks to its greater flexibility and configurability – importing data is quicker and supports more formats, for example. Its sync capabilities are also the best on test, thanks to its proprietary SYNCbits server, which works across iOS and – via a separate purchase – Mac. The only real blemish is that support for automatic downloading of transactions from online banks requires a separate – and pricey (at £39.99 a year) – subscription.



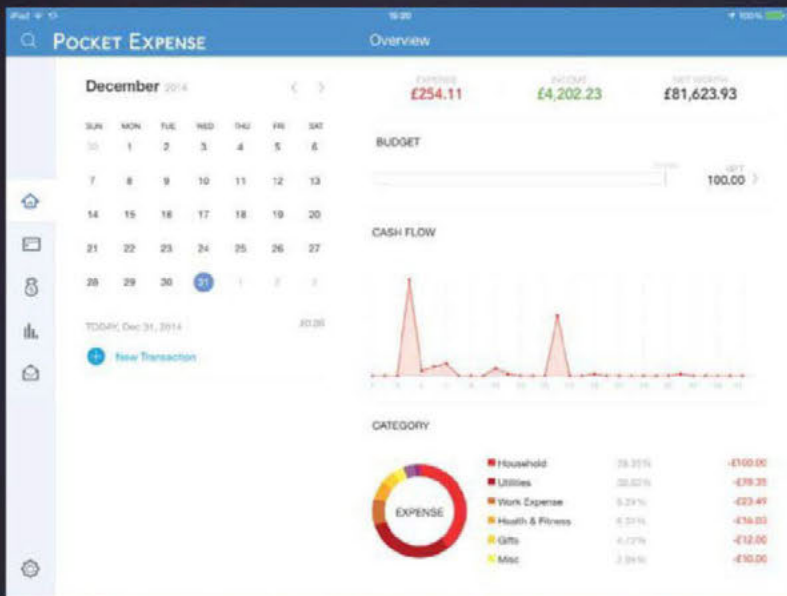
1



2



3



## POCKET EXPENSE PERSONAL FINANCE

★★★★★

Free/£3.99 Developer Appxy, appxy.com

3 Pocket Expense scores points for its presentation and intuitive user interface, which places all of its functionality – multiple account support, transactions, budgets, reports and bills, as well as a handy summary screen – in easy reach. The recording tools are simple to use, and it uses Dropbox to sync data between multiple iOS devices (you can also back up to your Mac via Wi-Fi). It's let down by no cross-platform support and a lack of options for importing existing data into the app.

4



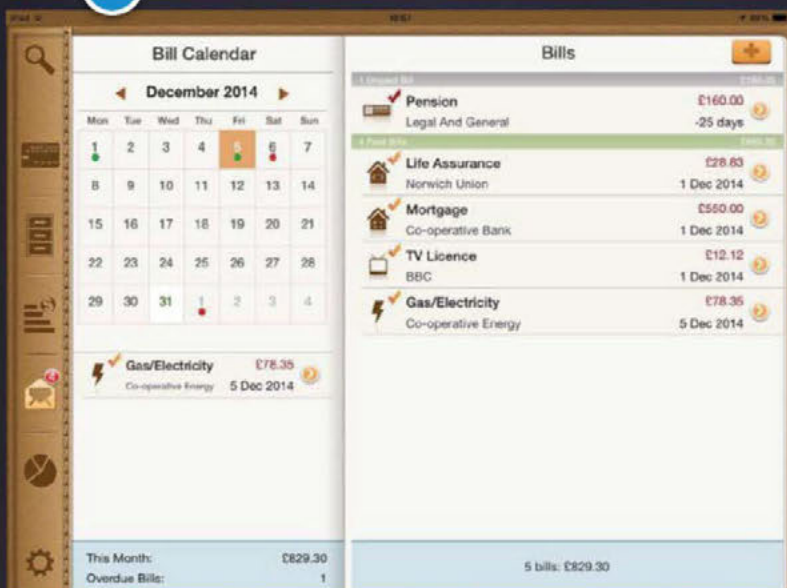
## SPENDING TRACKER

★★★★★

Free/£2.29 Developer MH Riley, mhriley.com

4 Spending Tracker is an interesting mix of good and bad. The free version is more functional than other apps, but you'll need to upgrade to the Pro version for recurring transactions, back up and restore, plus sync capabilities using Dropbox. The app performs capably enough, although a lack of any budgeting tools or built-in calculator conspire to count against it. As does the fiddly transfers between accounts and lack of support for importing data from other sources.

5



## MONEY MONITOR

★★★★★

£1.49 Developer Maxwell Software, maxwellapps.com

5 Money Monitor contains all the core functionality you need, with reporting, budgeting and support for multiple accounts and categories. It's wrapped up in a slightly dated, faux-leather user interface, and offers iCloud and Wi-Fi back up and restore. The user interface is okay, if a little clunky and over-complicated, but fairly intuitive. Ultimately though, Money Monitor falls short of other apps for being too inflexible. There are no sync capabilities and you can't import data from other platforms.

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# UPGRADE!

The ultimate guide to buying a Mac, iPad and iPhone

## SPOTLIGHT

The Apple kit we're most excited about



Rumours may be swirling about Retina screen updates and

single reversible USB ports, but the 2014 MacBook Air is a highly capable Mac in a tiny package. You can build an 11in model with an i7 CPU and 8GB of RAM that's good for anything short of 3D rendering or heavy gaming, and with an external monitor becomes a solid workhorse. It's hugely portable too, so there's a lot to love about the Air the way it is right now.

## Light fantastic

The smallest MacBook packs the same spec as the Mac mini and the low-end iMac, and is a good choice if you don't run many CPU- or GPU-intensive apps

*Battery life is awesome, 13" models last up to 12 hours*



## MacBook Air

### DAYS SINCE REFRESH

283

### UPDATE LIKELY?

Retina soon?

### BUY OR WAIT?

Wait if you can

➤ The 2014 MacBook Air refresh was a mere speed bump, but the range also went down in price. The lower-specced model in each screen size is down £100, with the high-end versions £130 cheaper.

The MacBook Air is otherwise unchanged. The range uses Haswell processors, which are designed to use very little power. The graphics chipset is significantly speedier than its predecessor, and the flash storage is up to 45% faster than the 2012 model, or nine times quicker than a traditional hard drive. 802.11ac Wi-Fi

made its Mac debut with the 2013 Airs, and it's up to three times quicker than 802.11n. Battery life is awesome, with the 13-inch models lasting up to 12 hours, and the 11-inch MacBook Airs running for up to nine hours on a single charge.

The Days Since Refresh box shows you when an Apple product was last updated at the time we went to press, and whether it's safe to buy now or wait. Please remember this advice is just our best guess – Apple can update any product line at any time.

## CHOOSE A MACBOOK AIR

Model	Key specifications	Price
11" 1.4GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000 Solid State Drive: 128GB	£749
11" 1.4GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000 Solid State Drive: 256GB	£899
13" 1.4GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000 Solid State Drive: 128GB	£849
13" 1.4GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000 Solid State Drive: 256GB	£999



## MacBook Pro

**DAYS SINCE REFRESH**

**192**

**UPDATE LIKELY?**

Recently updated

**BUY OR WAIT?**

Buy now

➤ Last summer, Apple gave the Retina MacBook Pros a minor refresh. All models got a 0.2GHz speed increase and a price cut of between £50 and £200; the entry-level notebooks in each screen size enjoyed a memory increase, too. Since the October 2013 refresh, most MacBook Pros have all offered a Retina screen, Thunderbolt 2, SSDs and a lightweight chassis, though the £899 non-Retina model persists.

The power saving afforded by the new fourth-generation Intel Core i5 and Core i7 processors introduced in October gave the Retina MacBook Pros

a battery life boost. The 13-inch model now lasts for nine hours, and the 15-inch notebooks for eight hours, both up from seven.

### CHOOSE A MACBOOK PRO

Model	Key Specifications	Price
13" 2.5GHz dual-core i5	Graphics: Intel HD Graphics 4000 Hard drive: 500GB RAM: 4GB	£899
13" 2.6GHz dual-core i5	Graphics: Intel Iris Graphics <sup>R</sup> Solid State Drive: 128GB RAM: 8GB	£999
13" 2.6GHz dual-core i5	Graphics: Intel Iris Graphics <sup>R</sup> Solid State Drive: 256GB RAM: 8GB	£1,199
13" 2.8GHz dual-core i5	Graphics: Intel Iris Graphics <sup>R</sup> Solid State Drive: 512GB RAM: 8GB	£1,399
15" 2.2GHz quad-core i7	Graphics: Intel Iris Pro Graphics <sup>R</sup> Solid State Drive: 256GB RAM: 16GB	£1,599
15" 2.5GHz quad-core i7	Graphics: GeForce GT 750M <sup>R</sup> Solid State Drive: 512GB RAM: 16GB	£1,999

<sup>R</sup> = Retina display



## Mac mini

**DAYS SINCE REFRESH**

**113**

**UPDATE LIKELY?**

Recently updated

**BUY OR WAIT?**

Buy now

➤ The smallest Mac in Apple's range finally got a long awaited update in October. It's a welcome update, but there's been a few odd choices in the components as well. Starting a new lower price of £399 (£100 cheaper than the previous model), it's still the same shape as before, but with some more modern internals.

It starts with a 1.4GHz Intel Core i5 dual-core processor with Intel HD 5000 graphics, 4GB of RAM and a 500GB hard drive – pretty much the lowest-end iMac without a screen. It's the same kind of power as you get in a

MacBook Air, but without the zippiness of flash memory.

Higher end models bring Intel Iris graphics and the option for a Fusion Drive hybrid storage system, though every option limits you to dual-core processors – a quad-core option is sadly absent. When stepping up to the high-end model (£230 more than the previous model), you get a 2.8GHz Core i5, 8GB of RAM, Intel Iris and a 1TB Fusion Drive, offering more headroom for tasks such as video-editing, but it still needs to be accepted that they aren't the powerhouses of some other Macs.

### CHOOSE A MAC MINI

Model	Key specifications	Price
1.4GHz dual-core Intel Core i5	Hard drive: 500GB RAM: 4GB 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000	£399
2.6GHz dual-core Intel Core i5	Hard drive: 1TB RAM: 8GB 1600MHz LPDDR3 Graphics: Intel Iris Graphics	£569
2.8GHz dual-core Intel Core i5	Hard drive: 1TB RAM: 8GB 1600MHz LPDDR3 Graphics: Intel Iris Graphics	£799



# UPGRADE!



## Mac Pro

**DAYS SINCE REFRESH**

**415**

**UPDATE LIKELY?**

Possible soon

**BUY OR WAIT?**

Wait if you can

➤ Eschewing the traditional tower design, the new Mac Pro is cylindrical, coming in at one eighth of the previous model's size – standing just 9.9 inches tall – but it packs a lot of power. And we mean a lot!

Designed around a thermal core that cools its components, the tiny Mac Pro boasts next-generation Xeon processor options, dual workstation-class GPUs, Thunderbolt 2, PCIe-based flash storage and fast ECC memory. Six Thunderbolt 2 ports sit at the back, flexible enough

to provide a huge 20Gbps of bandwidth in one direction and able to daisy chain up to six peripherals. It's fully backwards compatible with the original Thunderbolt port too, so if you already have Thunderbolt devices, you can still use them. There are also four USB 3.0 ports – the first time this high-speed USB connection has been featured on the Mac Pro – and two gigabit Ethernet ports. Numerous custom options are also available.

The Mac Pro is an incredibly powerful desktop computer, and probably a Mac too far for most users, but for those who need an incredible degree of computing power, it's capable of offering astonishing performance for years.

### CHOOSE A MAC PRO

Model	Key specifications	Price
3.7GHz quad-core Xeon E5	Solid State Drive: 256GB RAM: 12GB 1866MHz DDR3 ECC Graphics: Dual AMD FirePro D300	£2,499
3.5GHz six-core Xeon E5	Solid State Drive: 256GB RAM: 16GB 1866MHz DDR3 ECC Graphics: Dual AMD FirePro D500	£3,299



## iMac

**DAYS SINCE REFRESH**

**113**

**UPDATE LIKELY?**

Recently updated

**BUY OR WAIT?**

Buy now

➤ Apple's skipped 4K and headed straight for 5K to make this not only the Mac to have, but *the* desktop computer to own. It only comes in the 27-inch variety for now and sports a 3.5GHz quad-core Intel Core i5 (boosted to a 4.0GHz Core i7 as an option) and a 1TB Fusion Drive. There's also 8GB of RAM, AMD Radeon R9 M290X with 2GB video memory. The range elsewhere hasn't changed, with two non-5K 27-inch models available and three 21.5-inch models. The entry-level model has a dual-core processor, but all others have a quad-core processor as standard.

### CHOOSE AN iMAC

Model	Key specifications	Price
21.5" 1.4GHz dual-core Intel Core i5	Hard drive: 500GB (5400rpm) Graphics: Intel HD Graphics 5000 Graphics memory: Shared	£899
21.5" 2.7GHz quad-core Intel Core i5	Hard drive: 1TB (5400rpm) Graphics: Intel Iris Pro Graphics memory: Shared	£1,049
21.5" 2.9GHz quad-core Intel Core i5	Hard drive: 1TB (5400rpm) Graphics: NVIDIA GeForce GT 750M Graphics memory: 1GB of GDDR5	£1,199
27" 3.2GHz quad-core Intel Core i5	Hard drive: 1TB (7200rpm) Graphics: NVIDIA GeForce GT 755M Graphics memory: 1GB of GDDR5	£1,449
27" 3.4GHz quad-core Intel Core i5	Hard drive: 1TB (7200rpm) Graphics: NVIDIA GeForce GTX 775M Graphics memory: 2GB of GDDR5	£1,599
Retina 5K 27" 3.5GHz quad-core i5	Hard drive: 1TB Fusion Drive Graphics: AMD Radeon R9 M290X Graphics memory: 2GB of GDDR5	£1,999

Ⓡ = Retina display

# UPGRADE!



## iPad

**DAYS SINCE REFRESH**

**113**

**UPDATE LIKELY?**

Recently updated

**BUY OR WAIT?**

Buy now

➤ The annual iPad refresh brought us the thinnest, lightest and most powerful iPad yet in the iPad Air 2. Its A8X processor has a 40% speed boost over 2013's iPad Air.

Touch ID finally makes an appearance too, bringing the iPad into line with the iPhones on that score. A new gold colour option also makes an appearance, but 32GB options have been ditched across the range apart from the iPad Air and iPad mini 2 (iPad mini with Retina display), which have both 32GB and 16GB options.

### CHOOSE AN iPad

Model	Key specifications	Price
iPad mini 16GB Wi-Fi (add £100 for 3G)	Resolution: 1024x768 pixels Processor: Dual-core A5 Video recording: 1080p HD	Wi-Fi: £199 Wi-Fi+3G: £299
iPad mini 2 16GB Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels <b>R</b> Processor: 64-bit A7+M7 Video recording: 1080p HD	16GB: £239 32GB: £279
iPad mini 3 16GB Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels <b>R</b> Processor: 64-bit A7+M7 Video recording: 1080p HD	16GB: £319 64GB: £399 128GB: £479
iPad Air Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels <b>R</b> Processor: 64-bit A7+M7 Video recording: 1080p HD	16GB: £319 32GB: £359
iPad Air 2 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels <b>R</b> Processor: 64-bit A8X+M8 Video recording: 1080p HD	16GB: £399 64GB: £479 128GB: £599

**R** = Retina display



## iPhone

**DAYS SINCE REFRESH**

**150**

**UPDATE LIKELY?**

October 2015?

**BUY OR WAIT?**

Buy now

➤ When you're deciding which iPhone to buy from the new line-up, your decision will be driven primarily by what size screen you want. The iPhone 5c (sadly relegated to one capacity, 8GB) and 5s have a 4-inch screens, while the 6 and 6 Plus have 4.7 and 5.5-inch respectively; think about how they fit into your life – literally. There are other differences; the 6 Plus's camera has an image-stabilising lens, and both 6 models are faster.

The iPhone 4s has sadly been retired by Apple but there are still some available from carriers (and second-hand, of course), so if you want that 3.5-inch, thumb-friendly design, you can still get it. The iPhone 4s will run iOS 8, but don't be surprised if it won't be upgradable to iOS 9.

### CHOOSE AN iPhone

Model	Key specifications	Price
iPhone 5c	Processor: A6 Camera: 8-megapixel Video: 1080p, 30fps	<b>R</b> 8GB: £319
iPhone 5s	Processor: A7+M7 Camera: 8-megapixel Video: 1080p, 30fps/720p, 120fps	<b>R</b> 16GB: £459 32GB: £499
iPhone 6	Processor: A8+M8 Camera: 8-megapixel Video: 1080p, 60fps/720p, 240fps	<b>R</b> 16GB: £539 64GB: £619 128GB: £699
iPhone 6 Plus	Processor: A8+M8 Camera: 8-megapixel Video: 1080p, 60fps/720p, 240fps	<b>R</b> 16GB: £619 64GB: £699 128GB: £789

**R** = Retina display





## iPod touch

**DAYS SINCE REFRESH**

**225**

**UPDATE LIKELY?**

Possible in 2015

**BUY OR WAIT?**

Consider waiting

➤ The September 2012 iPod touch revision gave us six different colours to choose from. Where before there was just black or white, this fifth generation iPod touch gave us black, grey, pink, mustardy-green and blue, and also an Apple Store-exclusive (PRODUCT)RED – the latest refresh swapped the black for space grey.

It also features a stunning four-inch Retina display, a five-megapixel iSight camera with 1080p HD video, Apple's dual-core A5 processor, the intelligent assistant Siri, and a Lightning port to replace the old 30-pin dock connector.

At just 6.1mm thick, it's the slimmest iPod touch ever made. It looks great too, being built from ultra-light anodised aluminium. A new panorama feature lets you capture gorgeous panoramic photos by simply moving the camera across a scene.

In June 2014, Apple upgraded the 16GB version of the iPod touch, adding the rear-facing camera and range of colours, as well as dropping the price on the higher-capacity models.

### CHOOSE AN IPOD TOUCH

Model	Key specifications	Price
16GB	Display: 1136 x 640 Input: Lightning connector Camera: 5-megapixel iSight	<b>R</b> £159
32GB	Display: 1136 x 640 Input: Lightning connector Camera: 5-megapixel iSight	<b>R</b> £199
64GB	Display: 1136 x 640 Input: Lightning connector Camera: 5-megapixel iSight	<b>R</b> £249

**R** = Retina display



## iPod family

**DAYS SINCE REFRESH**

**877**

**UPDATE LIKELY?**

Possible in 2015

**BUY OR WAIT?**

Consider waiting

➤ Apple's latest iPod nano is the thinnest iPod ever, at just 5.4mm thick. It also boasts the largest screen to appear on a nano, a 2.5-inch multi-touch display that's great for photos and videos, as well as navigating your album art. It's available in seven different colours, including the charity-supporting (PRODUCT)RED design. Bluetooth 4 has been added for wireless streaming to compatible headphones and sound docks. You even get a built-in FM radio, too.

The iPod shuffle is overdue an update, but it's still a useful iPod. It's cheap, convenient and small; the perfect gift for a child or someone doing sports who needs a robust music player. It's great fun too, and an ideal spare iPod.

Sadly, at the same time as introducing the Apple Watch and iPhone 6, Apple retired the iPod classic. The writing may have been on the wall for this terrific 160GB powerhouse – the direct descendant of the original 2001 iPod – but it's nevertheless a shame to see it go; the iPod played such an important part in the renaissance of Apple. Our sadness isn't just nostalgic, though; with the iPod classic gone, those of us with big music collections must either pay a huge sum for a top-capacity iPhone 6 or subscribe to iTunes Match – though it has a 25,000 track limit.

### CHOOSE AN IPOD

Model	Key specifications	Price
iPod shuffle	Capacity: 2GB Number of songs: 500 Colours: Choice of eight	£40
iPod nano	Capacity: 16GB Number of songs: 4,000 Colours: Choice of eight	£129

**Issue  
285  
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- ✓ Thunderbolt 2 docks
- ✓ To-do apps for Mac



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# Apple CLASSICS

What's  
your Apple  
Classic?

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*Gary Marshall discovers a classic that really is a Classic*

## *iPod Classic (sixth gen)*



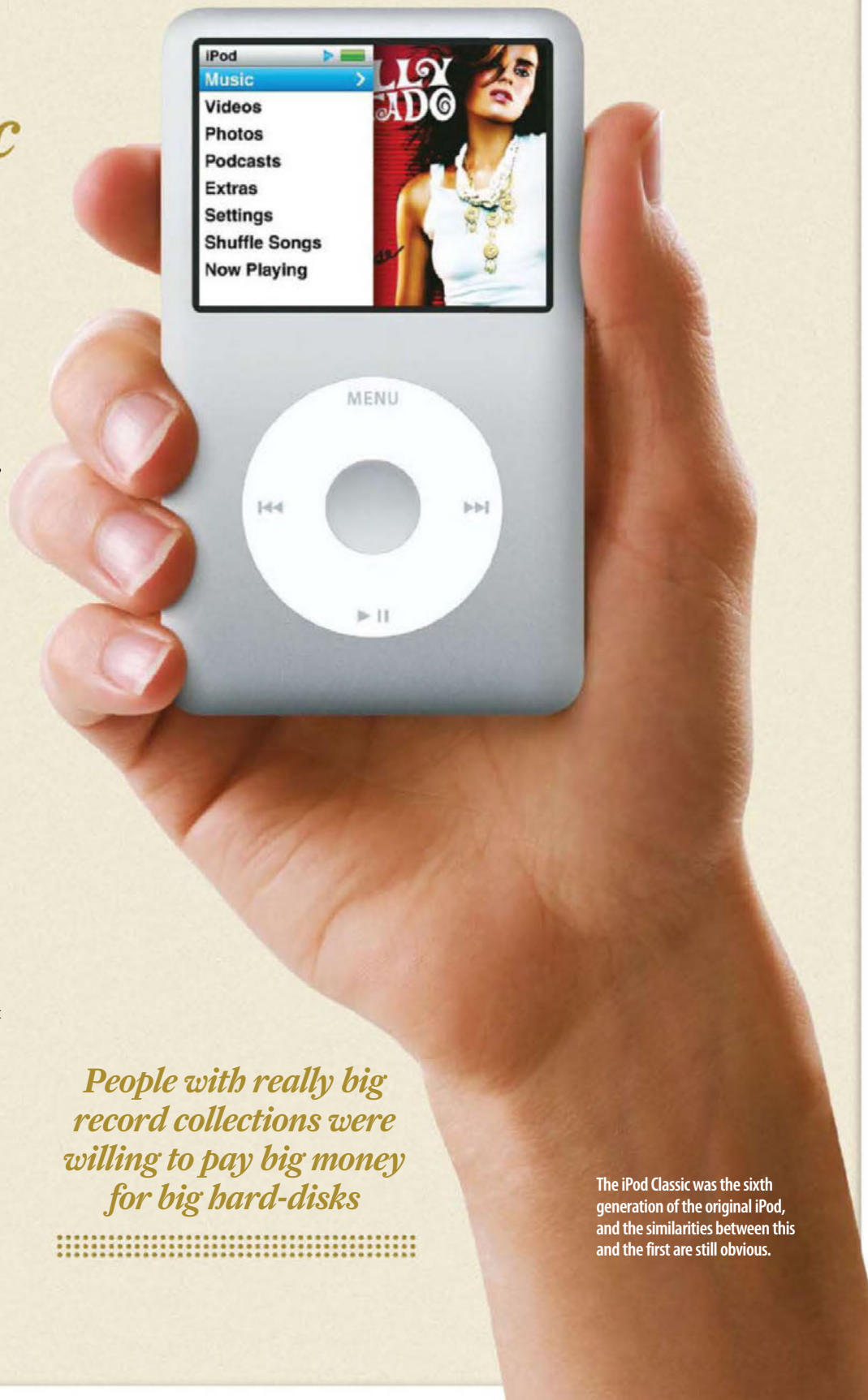
We didn't know it at the time, but the sixth iPod, the 2007 iPod Classic, was the last of the line. The iPod name would live on, but that iconic design wouldn't.

The Classic dispensed with the famous white casing and seven years later Apple would dispense with the Classic too. There would be no more scroll wheels, touch wheels or click wheels, no more hard disks, no more 30-pin dock connectors – and no more iPods whose sole purpose was music. Today's iPods are computers with music apps. And that's great. But while there were half-hearted attempts to add photos and videos to it, the iPod Classic was only ever destined to be a music machine.

The news that Apple was killing off the Classic in September 2014 turned out to be bittersweet. People with really big music collections were sad because, at 160GB, no other iPod came close to the biggest Classic's storage space. But Classic owners who didn't really care about such things soon discovered that people with really big record collections were willing to pay big money for big hard-disks. iPod Classic prices soared, and while they've calmed down a bit you can still make around £400 from one.

The iPod Classic didn't die because it was a bad product. It died because Apple couldn't make it any more. The world had moved on: the hard disks were impossible to source, and even if Apple had managed to get enough there wasn't enough interest in the iPod to justify the costs of developing a Lightning one.

I thought of putting my 80GB black one on eBay, but decided no: I like it too much, and it's been the core of my in-car entertainment for years. The battery's probably long gone but I keep mine cabled up to the car stereo anyway, so that my impressive collection of Girls Aloud and Five Star records is always available when I'm out and about.



*People with really big  
record collections were  
willing to pay big money  
for big hard-disks*

The iPod Classic was the sixth generation of the original iPod, and the similarities between this and the first are still obvious.



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